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**Modernization of statistical production and services and managing for efficiency**

# Managing an integrated respondent communication

**Note by Statistics Portugal**

*Summary*

The paper introduces the experience of Statistics Portugal in integrated respondent communication. The office started ten years ago a process of modernization of its production system. The paper highlights three key elements of this process: implementation of the simplified business information model; the full implementation of an integrated survey management system, and the promotion of a better relationship with data providers by designing a service of customised feedback information to the companies.

The paper is presented for discussion to the first session of the Conference of European Statisticians' seminar "Modernization of statistical production and services and managing for efficiency".

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# I. Introduction

1. Like many other industries, producing official statistics is a complex chain of actions, and faces increasing challenges due to the decreasing funding combined with increasing needs for data on new phenomena and emergence of alternative data sources that do not fit well with the traditional concept of official statistics, but which are valued by society. In fact, while society wants more diverse and faster data, other data sources than official statistics are becoming available based on large amounts of data that are automatically accumulated, such as Big Data.

2. Many national statistical offices are still very survey-oriented in the organization of their work. As the utility of statistics for companies and individuals is constantly questioned combined with increasing pressures to cut costs, data providers resist collaborating, and respondents are also demanding for new modes to provide their required data. This new context requires that national statistical offices must be prepared to change their processes, infrastructure and skills combination.

3. Integrating information systems is one major concern among companies and institutions. Better management of internal information is widely accepted as a critical success factor of any organization.

4. After an extensive internal discussion prior to 2005, Statistics Portugal decided to re-engineer its production architecture from a traditional stovepipe approach to a more integrated approach. Business statistics were the first area to benefit from this new system, followed by social statistics.

5. In this process, focusing on business surveys, three key elements are highlighted in the paper:

(a) The implementation of the simplified business information model (an administrative internet-based source) that conveys each year almost census data on the corporation sector, covering the information requested by four public institutions;

(b) The full implementation of an integrated survey management system which consists of components that support the basic statistical production sub-processes collect, process, analyse and disseminate;

(c) The promotion of a better relationship between data providers and Statistics Portugal notably by improving the dialogue with the data providers and by designing a service of customised feedback information to them.

# II. Statistics Portugal

6. Statistics Portugal is the Portuguese central authority for the production of statistics. Its main task is to develop and supervise the national statistical system.

7. Survey data collection is a core function of Statistics Portugal, consuming around 40 per cent of its annual budget and 30 per cent of its human resources. A data collection department assures mainly the operation of statistical production phases of collection, processing and analysis of collected microdata, covering all business and social surveys. Data collection staff is spread all over the country (mainland and islands), especially in Lisbon, Oporto, Coimbra, Évora, and Faro, but under centralized system.

8. The autonomous regions of Madeira and Azores have their own authorities for the production of regional specific statistics, while being the data collection

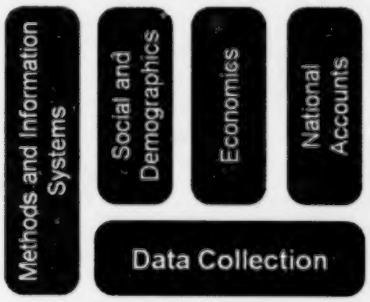
centres for those areas for Statistics Portugal, under common technical requirements and infrastructure.

9. Statistics Portugal has ten years of experience in the modernization of its statistical production and services, improving the efficiency and flexibility. The strategy implied replacing the existent stovepipe model with an integrated model.

10. Business surveys involve around 85,000 different companies, 99 per cent of them are considered as small and medium enterprises. In 2014, 535,000 self-completed questionnaires were collected, 93 per cent of them electronically via WebInq which is an online service dedicated to information providers.

11. The current organization of the statistical production process of Statistics Portugal (simplified) is shown in Figure 1.

Figure 1
**Organization of the statistical production process of Statistics Portugal**




## III. Simplified business information

12. The simplified business information (IES) is a strong example on of how to improve the collaboration between statistical organisations in Portugal.

13. IES system results from the joint efforts of four public institutions and makes it possible to acquire administrative and statistical information in a single process. Conducted electronically, it covers the whole population of enterprises, allowing the simultaneous compliance for several legal information obligations.

14. IES is a form of delivery, electronically and totally paperless form of declarative accounting requirements, taxation and statistics.

15. Before IES, companies were required to provide the same information on their annual accounts to various public entities, through different means:

- Deposit of annual accounts and corresponding record on paper, with the registries of the commercial register;
- Delivery of the annual statement of accounts and tax information to the Ministry of Finance (General Directorate of Taxes Current Tax and Customs Authority - AT);
- Annual information delivery of accounting nature to Statistics Portugal, for statistical purposes;
- Information delivery of annual accounting data for statistical purposes to the Bank of Portugal.

16. Each of these obligations entailed for companies the need to substantially transmit the same information from their annual accounts to four different entities (registries the commercial register, tax authorities, Statistics Portugal and Bank of Portugal) and through four different means.

17. With the creation of IES, all information that companies need to report shall be transmitted in a single moment and before a single entity.

Figure 2
**Public institutions that constitute the IES project**

18. As a result of a programme set up by the Portuguese government with the purpose of simplifying and modernizing the administration, a number of public entities, including Statistics Portugal took part in the creation of a system that made possible to fulfil the related legal obligations.

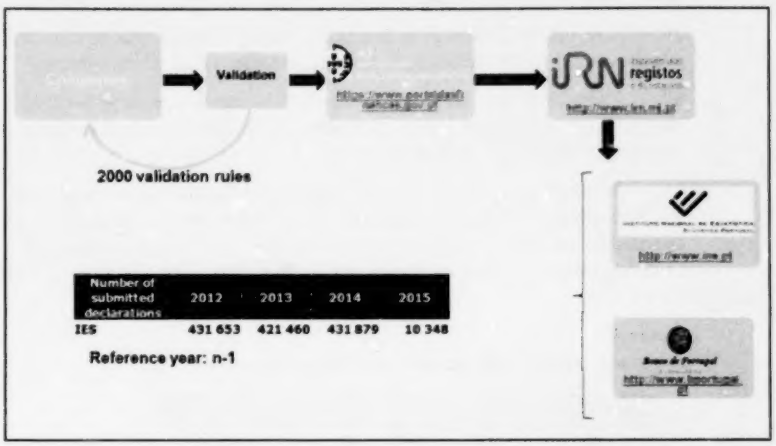
19. IES implementation was only possible with the major involvement of all interested parties. In addition to the public institutions behind its creation, it also had the committed support of the Chamber of Chartered accounts, of enterprises supplying software to other enterprises and of insurance and banking supervisors. However, the political support must be considered the key factor in the implementation of this system.

20. This system started to be developed in February 2006 and was in place in April 2007. It was really a major achievement in so little time, but on the other hand this goal has been pursued by Statistics Portugal longer, since 1990. The process was challenging, and required team work.

21. Concerning the role of Statistics Portugal, what should be highlighted is the proactivity shown all through the process and before it – in fact, it was Statistics Portugal that designed the templates and created almost all the 2,000 editing rules for the common data reporting system. In addition to all the hard work, Statistics Portugal also gained the respect from its partners and gained some more room to propose their own objectives in future collaboration.

22. Surpassing the legal or political barriers, one of the issues to be highlighted as well is that the Ministry of Finance had experience of using the electronic platform that supports the new system – that is one of the big issues when a country wants to put a system like this in place.

Figure 3
**IES information cycle**




23. Thus, the system uses a platform developed by the Ministry of Finance – since 2000 a law was created making mandatory to all enterprises to submit tax data by electronic means. The Ministry of Justice is usually considered the owner of the information and, therefore, the information is sent to Statistics Portugal and Bank of Portugal through Ministry of Justice. However, Statistics Portugal receives the information daily, and coming through a validation process. Due to the validation process it is not possible to submit a declaration that is not valid, and does not pass all the existing around 2,000 editing rules applied in the process.

24. The whole system has been developed in a collaborative manner: information needs have been exhaustively identified taking into account the different uses of data, with harmonization of concepts and definitions in case common data were needed.

25. Specific data for Statistics Portugal have been included in the collection, namely the information on local units and on activities.

26. Statistics Portugal considers that the creation of this system resulted in a win-win situation. In fact, we can identify advantages for all parts. For the companies, it allows simultaneous fulfilment of four legal obligations (reduction of costs and statistical burden) as well as advantages of the use of an electronic format. For Statistics Portugal, IES allowed to suppress one of the biggest surveys, including more than 60,000 companies, as well as simplifying many other surveys, benefiting of a total coverage, resulting in more information which is available sooner.

## IV. Integrated survey management system

27. Like many other national statistical offices, prior to 2004 Statistics Portugal produced statistics through a non-integrated organizational architecture, based on numerous parallel processes, domain by domain, place by place. Data collection activities were conducted by individual survey departments and regional directorates. A survey unit would design their survey, but the development and operations were usually not harmonized. Centralized activity was mainly restricted to some software development and to a weak coordination of the household interviewer workforce.

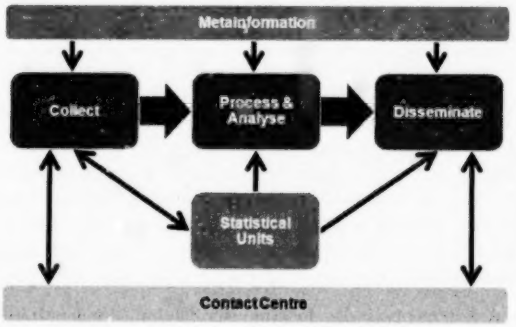
28. After a reflection and a re-organization process in 2004, a project to re-engineer the production architecture was undertaken based on an integrated and process driven approach aiming at improving its efficiency and flexibility.

29. This effort resulted in an Integrated Survey Management System (SIGINQ), which covered firstly the business surveys, and later on the social surveys.

30. From 2008 until now, the number of features supported by SIGINQ grew up continuously. Four years after its first version, SIGINQ covers all business surveys, which are fully supported by this system.

31. SIGINQ aims at offering an integrated infrastructure to better support the statistical production and development in an efficient way, covering all the statistical operations (business and social). It unifies the main components into a comprehensive and interdependent system based on the architecture illustrated in Figure 4.

Figure 4
**Integrated survey management system architecture (Level 1)**




32. The system follows the basic production sub-processes: collect, process, analyse and disseminate. Statistical units, registers and metadata support the flow of the processes. A contact centre system offers the infrastructure to telephone interviews (for social surveys), and the support to data providers. The next points describe these subsystems, especially the processes and systems that support the production of business statistics.

33. The main components of SIGINQ are described below.

## A. Statistical unit registers system

34. The registers aggregate all statistical units which provide the basis for the selection of the populations and samples for all surveys.

35. These registers include variables of identification, localization and characterization of their statistical units. The register is updated to assure quality to the samples, and surveys themselves are one of the most important sources for this purpose.

## B. Population and sample system (SIGUA)

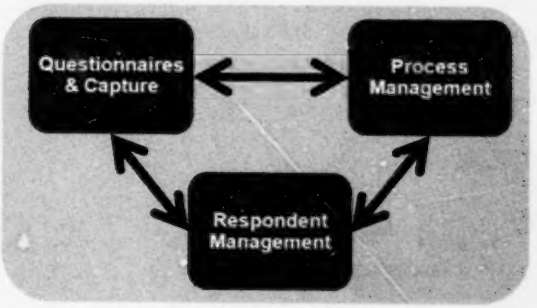
36. This component aims at creating and maintaining a repository to store all of the reference population and the samples selected to the surveys. This is a key element to the data collection system.

37. Online processes to update the repository, managed centrally, are available. One internal collection agent can submit proposals to update some information about the statistical units. These proposals are analysed centrally by methods team, and information is updated, if considered reliable. Finally, the proponent receives the feedback of the proposal, i.e., if it was accepted or rejected and why.

## C. Collection system

38. The collection system aims at feeding the statistical production process with microdata, and it is composed of three components: (1) process management; (2) questionnaires and capture, and (3) respondent management. The Figure 5 shows these three components, and the relationships.

Figure 5
**Components of the statistical units register system**




### 1. Process management

39. This component is responsible for the management and control of all data collection processes, including information about respondents and metadata. These processes are fully supported by the metadata system.

### 2. Questionnaires and data capture

40. This system offers the data collection support and information technology solutions, each of them dedicated to a particular mode of collection: electronic, paper, telephone, face-to-face interview, etc. For business surveys, questionnaires and data capture have two components: WebInq and WebReg.

### 3. WebInq: Surveys on the web

41. WebInq is the area of Statistics Portugal Portal where data providers can respond to survey questionnaires via Internet web forms. Respondents can find information about the surveys and further information about other surveys where the statistical unit is included, the status of response, and also extensive information about the respondent and its response behaviour.

42. WebReg is a clone of WebInq, aiming at supporting the internal data entry of the remaining paper questionnaires, being also a data editing tool.

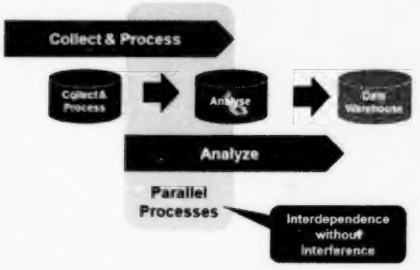
### 4. Respondent management

43. This component aims to maximize the relationship with the data provider and the respondent. This is achieved through a repository of all respondents, including information about the identification, localization, contacts, relationships and their collection behaviour, history of the collection activity, quality of the data provided, response timing, etc. This tool is very important when the processes are repeated regularly.

### 5. Process and analyse system

44. This system cleans the data records and prepares the data analysis, the stage where statistics are produced, examined in detail and made ready for dissemination. As the "Process" and "Analyse" phases are iterative and parallel, the system assures the principle of "interdependence but no interference" between both phases, which is represented in the Figure 6. Process and Analysis System supports the following phases and sub-processes of the Generic Statistical Business Process Model (GSBPM): (5.) Process: (5.4) Impute; (5.5) Derive new variables and statistical units; (5.6) Calculate weights; (5.7) Calculate aggregates; (5.8) Finalize data files; (6.) Analyse: (6.1) Prepare data outputs; (6.2) Validate outputs; (6.3) Scrutinize and explain; (6.4) Apply disclosure control; (6.5) Finalize outputs.

Figure 6
**Parallel Processing**




### 6. Metadata system

45. This system is composed of several components, such as: terminology and concepts; statistical classifications; repository of questionnaires; methods documents; variables and questions. This system is closely interrelated with collection, process and analysis, and dissemination systems.

### 7. Contact centre system (SICC)

46. As mentioned before, this system offers the infrastructure for telephone interviews (household surveys), telephone reminders and the support to data providers. It also facilitates the access to context information about data providers, respondents and surveys. From March 2012, SICC supports another component of questionnaires and capture system: telephone data entry (TDE), which is a solution by which respondents can return their data using the keypad on their telephone.

# V. Customised feedback to data providers

47. Having an integrated production system is a key element to improve the relationship with respondents. As long as the data collection processes occur, metadata are automatically collected offering an extensive knowledge of the data providers and respondents.

48. Nowadays, it is easy to answer some questions like: What are the surveys that a company or a respondent is involved in? What is their response behaviour? Those questions where nearly impossible to answer with the former approach.

49. Harmonized tools are used to provide improved respondent communication. Standard reminder and follow-up strategies are in place, having an active capability to modify the implemented approaches according to the development of a certain data collection campaign.

50. Written questions, complaints and suggestions from respondents are handled centrally to ensure a consistent reaction based on standard templates.

51. Statistics Portugal's efforts to improve the consistency of respondent communication are illustrated by the following example. In 2013, Statistics Portugal carried out an ad-hoc survey to data providers which allowed obtaining a picture of how the obligation to report statistical data is viewed by the respondents. The results provided new information on the perceived response burden and the quality of the data reported, and Statistics Portugal obtained critical suggestions for the improvement of procedures of data collection. After the survey, one of the major results was the following: "Companies consider that the statistical information disseminated by Statistics Portugal has significant utility to the society, but they are more reluctant to admit their own interest on it." These results are presented in Figures 7 and 8 as follows.

Figure 7

**Perception of the usefulness of statistical information for the society according to the company size**

| *Company size* | *Very useful* | *Useful* | *Not very useful* | *Useless* | *Do not know* |
|---|---|---|---|---|---|
| Big | 25.5% | 57.2% | 9.2% | 2.8% | 5.3% |
| Medium | 20.5% | 58.3% | 12.4% | 1.9% | 6.8% |
| Small | 17.2% | 55.3% | 16.7% | 3.7% | 7.1% |
| Total | 18.5% | 56.1% | 15.2% | 3.2% | 6.9% |

Figure 8

**Perception of the usefulness of statistical information for the company according to the company size**

| *Company size* | *Very useful* | *Useful* | *Not very useful* | *Useless* | *Do not know* |
|---|---|---|---|---|---|
| Big | 7.1% | 44.8% | 35.9% | 4.4% | 7.8% |
| Medium | 4.6% | 42.4% | 36.3% | 9.2% | 7.5% |
| Small | 3.6% | 40.4% | 35.3% | 11.7% | 9.1% |
| Total | 4.1% | 41.1% | 35.5% | 10.6% | 8.6% |

52. In order to deal with these contradictory perceptions and also offer a sign of recognition for information providers and their efforts, Statistics Portugal recently started to make available a new feature of the WebInq: the customised feedback to data providers.

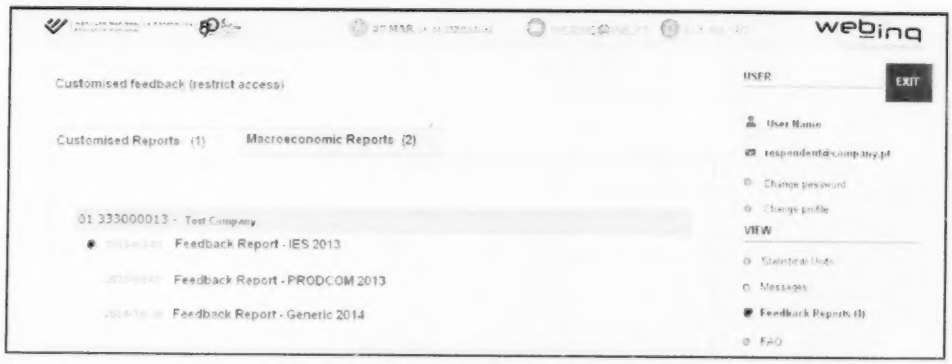
53. This feedback corresponds to the periodic provision of three types of reports:

- Customised reports, which bring together, in a synthetic and targeted way by themes, the information collected, including indicators of the relative position of the company given the results of investigations in which it participates and other information of a specific nature, provided they do not compromise the principle of statistical confidentiality;
- National macroeconomic framework, quarterly updated;
- A link to the electronic brochure of economic activity more updated.

54. For confidentiality reasons, this feature is available to specific WebInq users with the proper authorization from the companies to access this kind of sensitive information.

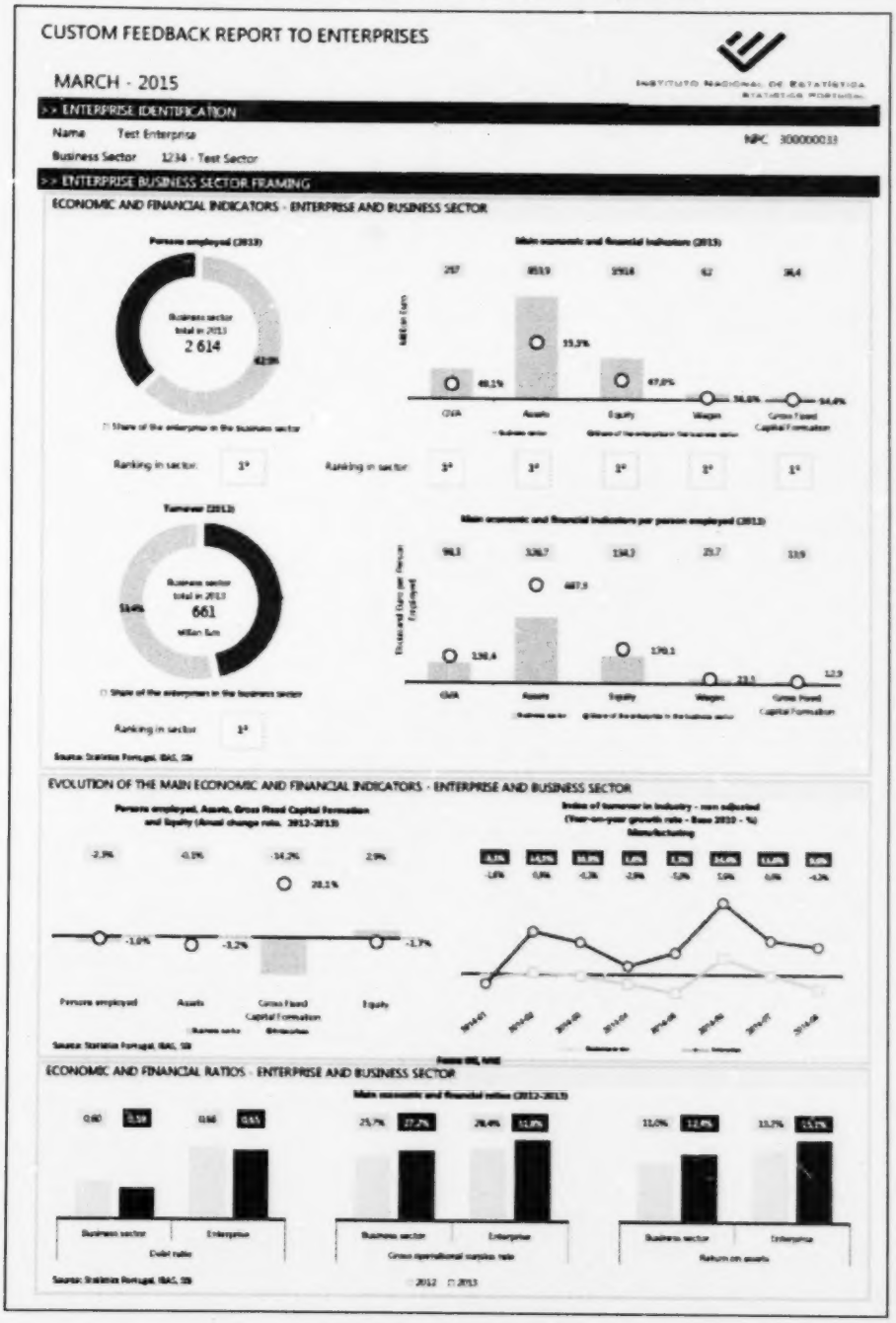
55. After authentication by username and password, the respondent can access customized reports for all companies who have authorized his or her access to WebInq, as shown, as shown in Figure 9.

Figure 9
**WebInq menu to access the customised feedback reports**




The reports have been designed in a very concise manner, using graphics and images, as in the example shown in Figure 10.

Figure 10
**Example of a personalised report to a data provider (fictitious)**


CUSTOM FEEDBACK REPORT TO ENTERPRISES
MARCH - 2015
>> ENTERPRISE IDENTIFICATION
Name Test Enterprise
Business Sector 1234 - Test Sector
>> ENTERPRISE BUSINESS SECTOR FRAMING
ECONOMIC AND FINANCIAL INDICATORS - ENTERPRISE AND BUSINESS SECTOR
EVOLUTION OF THE MAIN ECONOMIC AND FINANCIAL INDICATORS - ENTERPRISE AND BUSINESS SECTOR
ECONOMIC AND FINANCIAL RATIOS - ENTERPRISE AND BUSINESS SECTOR

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# Something old into something new– revitalizing vital statistics through innovation and improved efficiency

**Note by the National Center for Health Statistics of the United States of America**

*Summary*

The paper introduces the experience of the National Center for Health Statistics of the United States of America in modernizing vital statistics through innovation and improved efficiency. Now with available web-based reporting systems to hospitals, physicians, etc. the timeliness of vital statistics has been significantly improved. More efficient communication with the data providers means improved quality control. Data quality is also improved through increased use of web-based tutorials describing reporting requirements for difficult vital events to data providers. This paper will discuss these improvements and future development plans for linking electronic health records to vital events which will provide a rich, longitudinal reporting system.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Modernization of statistical production and services and managing for efficiency".

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# I. Introduction

1. The National Vital Statistics System (NVSS) of the United States provides the nation's official vital statistics data based on the collection and registration of birth and death events at the local and state level. NVSS provides the oldest, most complete and continuous data available to public health officials at the national, state and local levels, and in the private sector. Vital statistics have been a critical component of our national health information system, allowing us to monitor progress toward achieving important health goals.

2. Examples of NVSS data include: teen births and birth rates; prenatal care and premature births; risk factors for adverse pregnancy outcomes; infant mortality rates; life expectancy and leading causes of death. It is a unique cooperative effort involving the public, local, state and federal government. NVSS has several interesting aspects:

(a) It is a census;

(b) It is based on administrative data;

(c) It is a cooperative/shared governmental responsibility based on state registration law and federal reporting requirements and standards.

3. Historically, vital statistics have been used to identify current (and emerging) health problems requiring public health action. Over the last four decades, however, time lags between vital event occurrence and statistical report release have resulted in the NVSS becoming more of a historical reporting system—valuable for illustrating trends as a nation and across communities, but not for identifying what health issues we are currently facing. Now with web-based reporting systems available to hospitals, certifying physicians, medical examiners and funeral homes, vital statistics reporting is positioned as a central component of the Center for Disease Control's (CDC) disease surveillance for chronic, infectious and injury-related mortality and high-risk births. As an example of significant change, just a few years ago, vitals data were several years old before reported. We are now receiving about 45 per cent of all vital records within 10 days of the event; soon, that will be at 80 per cent. As a result, NVSS now has the internal systems within the National Center for Health Statistics to monitor disease outbreaks on a near real-time basis. For example, NVSS can now track influenza and pneumonia deaths more quickly and completely with vital statistics than other current surveillance systems.

4. In fact, NVSS is now working with CDC epidemiologists to identify a broader range of events to track on current flow basis. With the improvement in timeliness also comes better data quality. More efficient communication with the certifying physicians and other data providers means improved quality control. Data quality is also improved through increased use of web-based tutorials describing reporting requirements for difficult vital events to data providers. In the future, we will pilot the linking of electronic health records to vital events, which provides the future possibility of a passive, longitudinal reporting system from birth to death.

5. The history of the collection of vital statistics in the United States is a window into the shared federal and state governance structure and is also one of the earliest examples of a statistical system built upon an administrative system responsibility and that is the registration of vital events. In the United States, although the constitution requires the federal government to undertake a Census, there is no mention of the federal responsibility for registration of its citizens through the registration of births. In the United States in the 18th century, vital registration was primarily a church function and then slowly began as a

governmental function in cities. In the first half of the 19th century, the information from the registration of vital events was beginning to be used for public health purposes in five cities (Boston, New York, Philadelphia, Baltimore and New Orleans) and in the early 1800's those cities contained about eight per cent of the population.

6. From a national perspective, vital statistics first began to be collected in 1850 through the decennial census. It became apparent this process was inadequate from a demographic and a public health perspective and in the beginning of the 20th century the federal government began encouraging states and cities to register vital events and to collect information in a standard manner. It was not until the mid-1930's that the United States had full coverage of vital events through state and city vital registration.

7. The United States currently has 57 vital registration areas (50 states, New York City, Washington, D.C. and 5 United States Territories). To this day, the federal government through the National Center for Health Statistics (NCHS) is authorized to collect vital statistics from the states but states are not required to provide this information to NCHS. This unusual governance structure has led to a cooperative relationship by which NCHS provides standards and funding for the collection of vital statistics data from state controlled registration systems. As such it is the longest continuous joint federal and state data collection activity in the United States.

## II. Usefulness of vital statistics

8. Statistics based on births and deaths registered in the United States are a primary source of data used to track the health status of the population, to plan, implement, and evaluate health and social services for children, families, and adults, and to set health policy at the national, state, and local levels. Data on access to prenatal care, maternal risk factors, infant mortality, disparities in health status, changes in the rankings of causes of death, life expectancy, years of potential life lost, and other pregnancy and mortality indicators provide the staples for public policy and programmatic debates about improving health and health services delivery.

9. Unlike any other public health data system, the national vital statistics system provides nearly complete, continuous, and comparable federal, state, and local data to public health officials and programs. This strength enables population-based analysis and comparisons to be undertaken at the national, state, and local levels by age, race, ethnicity, and sex. For example, with approximately two and a half million deaths each year, disparities in the leading causes of death by race and age can be monitored and compared at the local, state, and national levels. Rare and emerging causes of death can be identified, and using both the underlying and contributing causes of death, the impact of such diseases as hypertension, diabetes, and atherosclerosis on mortality can be measured.

## III. The problem

10. Despite the importance of the nation's vital statistics system, in the late 20th century and early 21st century, data collection and dissemination was based on outmoded vital registration practices and systems at all levels of government, a fact that raised concerns about data quality, timeliness, and the lack of real-time linkage capabilities for the more than six million annual vital events with other data systems.

This state/federal cooperative system had become so arthritic that vital events at times were reported over two years beyond the actual year of the event. Vital statistics reports became more of historical interest, indicating where we had been and not what health challenges and successes we were currently experiencing. Vital statistics, the cornerstone to public health reporting was quickly becoming irrelevant to public health intervention and practice. From a demographic perspective the late provision of current birth and death data was impacting the availability of post-censal estimates of population for states and counties. Something had to be done.

## IV. The causes

11. The causes for a declining lack of timeliness and quality could be found in both systems and procedures at the federal and state level. Contributing to these causes was a lack of funding for the activities and a mind-set that annual reporting delays were an inevitable outcome of this shared cooperative federal/state activity. Some of the specific procedural causes included:

- Data were only published annually and so data were not sent in to NCHS as it was received. Much of the data was sent later in the year which delayed quality control of the data through data edits.
- Late data edits meant that questionable items were unresolved and coded accordingly.
- NCHS did not publish its annual report until all states had responded, the slowest state ruled the data release date which took pressure off of other states which could have reported earlier.
- NCHS was late in paying states for their data and that delay grew as NCHS's budget situation grew worse.
- The delay in payment to the states caused the states to delay sending their data to NCHS and also impacted the states capacity to update their IT systems.
- States had trouble maintaining qualified cause of death coding staff, ironically caused by federally developed automated mortality coding systems.
- Major increases in the data content in the 2003 revision of vital events in the United States came about without funds to states to change their systems, which in turn caused states to modify their data sets over time complicating the compilation of a national data set containing comparable data.
- For most states the reporting of deaths was paper driven. The demographic part of the death certificate was completed by the Funeral Director and the medical portion was completed by the certifying physician or Medical Examiner/Coroner. Those certificates many times were then delayed even more because they were first to a local registrar before being sent to the State Office to be put in electronic form.

12. The systems issues were significant. As noted above, the collection of death information was primarily a paper-based process, unchanged at the local and state levels for the last half century. Funeral Directors were responsible for collecting demographic information on the decedent from the next of kin, while attending physicians, medical examiners, or coroners provided the medical information on cause of death. Demographic and medical information were brought together manually by passing the paper certificate back and forth; the certificate data did not

become computerized until reaching the state vital registration office, many times after considerable delay.

13. The lack of automation at the source precluded timely follow-back to improve data quality and did not take advantage of existing internal systems of funeral directors and physicians. The Internet was not being used for electronic data transfer between data providers and state registration offices. The systems at the federal level were antiquated flat file based with little reporting back to the states and most significant editing was done at the end of the reporting year far too late for improving data quality. These systems did not provide the states adequate information on how they were doing relative to other states or on their results as compared to the required timing of the contract deliverables.

14. Although NCHS had developed an automated mortality coding system and provided it to the states for their use, as the throughput of the system improved to over 80 per cent it became harder for the states to keep qualified coders to deal with the remaining difficult to code records. Also maintaining those systems for the states in their own computing environment was cumbersome.

## V. The strategy

15. Because the causes were many, the strategy to improve was many faceted. Funding was found to pay the states for their data upon receipt and passing quality control tests. A new contract was put in place not only to pay states for their data but also to improve states systems and procedures.

16. A "Good to Great" workgroup of state and federal senior staff was empowered to develop strategies to improve timeliness and data quality through joint activities. States developed more flexible web-based birth registration systems and began to develop web-based death registration systems (EDRs). States with federal support developed web-based tutorials for certifying physicians dealing with completing the death certificate. States were encouraged and began to send data to NCHS on a current flow basis instead of holding and sending batches of data.

17. NCHS systems were completely changed to more modern database structure and sent back edits immediately. Mortality coding was moved from the states to NCHS and for records coded by the automated systems, those records were sent back to the states the next day. Records requiring manual intervention at NCHS took longer but still were still available to NCHS and the states much sooner.

18. With faster data response back to the states and the states back to the data providers, hopefully data quality will improve. NCHS database systems are updated continually allowing for NCHS to consider using vitals data for not only annual reporting but also for public health surveillance.

## VI. The results

19. In 2014, NCHS published for the first time final reports and accompanying data sets for births and deaths for the year 2013. In order to do this, final data for mortality for 2011, 2012 and 2013 were all made available in 2014 and 2013 birth data was made available earlier in the year than ever before.

20. The National Death Index usually running two years behind the reported data year was updated for 2014 deaths in February of 2015. Not only was final data available quicker but data were now being received from many states on a current

flow basis. For example in 2010, eight per cent of death records were received within ten days of the event. For 2014 data, over 30 per cent of records were received within ten days of the event and for 2015 almost 50 per cent of the records are being received within ten days.

21. However, currently only 36 states have EDRs and even for those states, most do not have complete coverage. The goal is to have by 2018 at least 80 per cent of all records within ten days of the event with the states NCHS is working to improve. Because of the improvement of timeliness NCHS has been working with CDC to use vital statistics for surveillance of deaths of immediate public health importance.

22. For the last year NCHS has been using vital statistics to monitor pneumonia and influenza deaths in the United States and comparing timeliness results with current reporting systems. Vital statistics reporting is almost two weeks faster. If these results continue, vital statistics could replace the old reporting system next year.

23. NCHS is also doing pilot studies for the surveillance of rare vaccine preventable disease deaths, respiratory syncytial virus (RSV) mortality and enterovirus mortality. Pilot studies will begin on suicide and disaster related mortality surveillance. Doing mortality surveillance for rare events, NCHS are not constrained to the ICD which may not be granular enough identify the event. We are now considering natural language searches on the medical "literals" provided by the physician that are used as the input to the automated medical coding system.

24. Finally from an NCHS reporting perspective we plan to report quarterly on major vital statistics indicators with the first quarterly report coming out this summer on 2015 events.

## VII. The future

25. As electronic health records become ubiquitous and as their standards solidify, state based vital records systems need to take advantage of the information in these records. Initially, for births NCHS needs to see how data can be pulled from EHRs into the birth certificate to ease the provision of data from the hospitals.

26. NCHS also needs to continue studies on the validity of the birth data we are currently receiving to either modify or drop from the current standalone electronic birth records. Initially for deaths we need to see how the medical information from the electronic health records can be made available to the physicians when they are providing the cause of death information. The state-based electronic birth and health records are expensive especially for smaller states to maintain on their own.

27. NCHS is now looking at the possibility of developing a core system for states to modify and use. If and when electronic health records in the United States are not only ubiquitous but indeed become standardized to the extent that data can be shared and "understood" between different vendor systems, then perhaps the next step should be that the record that begins the electronic health records in the United States will be the birth record and the final record closing out the electronic health records would be the death record.

28. Consider the power of a longitudinal record of birth, lifetime health care delivered and death and then linked to the national interview and examination surveys which provide views of health status and health practices as well as genetic material. The future is bright.

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**Modernisation of statistical production and services and managing for efficiency**

# The increasing importance of "wholesaling" data

**Note by the Australian Bureau of Statistics**

*Summary*

The paper describes the dissemination strategy of the Australian Bureau of Statistics that recognizes that presence on the web is no longer defined by the primary website of the national statistical office, but by the visibility and agility of the statistical office across multiple channels. The paper explores what 'wholesaling' data means, and how the Australian Bureau of Statistics and many other organizations are benefiting from the ability to interface with the official statistical data stores to pull data into their applications.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Modernisation of statistical production and services and managing for efficiency".

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# I. Background

1. The Australian Bureau of Statistics (ABS) has a legislated function to maximise the use of data for informed decision making. ABS works within an interconnected information environment, providing statistical leadership for Australia through effective partnership with key stakeholders. Changes and innovation in the information environment are stimulating demand from government, researchers, industry and the community for access to data through rapid, flexible and secure means.

2. This paper outlines a strategy to provide better access to statistical data through data wholesaling. It explores how ABS and other organizations and individuals are benefiting from the ability to interface with the ABS data stores to pull our content into their applications using web services or Application Programming Interfaces (API).

# II. Our users

3. ABS has traditionally thought about our users in terms of market segmentation, from primary school students to policy analysts, economic modellers and health researchers. More recently, ABS has focused our attention on the behaviours of our users, rather than which organization or role they perform. This has allowed us to simplify our approach to providing our content.

4. Users can be divided into four main behavioural groups so we can target our approaches to meet their requirements. These users say:

- Connect me to a number, so I can quickly tell others about it; or
- Connect me to an interesting story, so I learn something new. I would like a story or an interactive tool or game like Census spotlight (spotlight.abs.gov.au); or
- Connect me to a summary, as I want to learn more about 'Where I live' or 'What are the important health issues of today'; or
- Connect me to detailed data so I can analyse, re-use and combine it with other data, to help me or my own users make decisions.

# III. The digital economy

5. Over the past decades, organizations have relied on static web sites, desktop browsers and monolithic systems to deliver content. Our traditional model is a website which delivers regular static publications and data at prearranged and predictable times. Detailed data sets are available to users in excel format, but only through manual download from the website.

6. The efficacy of this model has been disrupted by rapid technological change. The complexity of rapid changes in technologies, processing power, digital media and digital community poses a range of challenges. We know that:

- There is an exponential growth in data, but a massive reduction in the cost of holding or transmitting data. This brings data management and distribution challenges;
- The value chain has shifted from providers to aggregators or data intermediaries such as new media platforms. A challenge is how to attract attention or ensure attribution (and thus quality assurance) where content creation and distribution channels aren't limited to traditional means;

- The capacity to interact with new media has grown beyond traditional rigid models. Users can instantly access content, share, comment on, and query content at any time of the day;
- Speed is everything in the digital economy. Milliseconds mean money. Everyone wants information at the tip of their fingers, fast and efficiently;
- The applications development community is a significant player. Through the use of new web technologies, new applications can be constructed quickly and cheaply, to meet broad or specific needs;
- Information can be readily and automatically interpreted by machines, so machines can perform more of the tedious work involved in finding, combining, and acting upon information on the web;
- There is an increasing use of artificial intelligence systems within the Internet, enabling automatic decision making.

7. Our key users are players in, and impacted by, the digital revolution. Government, business and researchers need faster and better access to data. They want access to detailed fully described macro and confidentialised micro data. They want to integrate data across traditional and non-traditional statistical subject matter boundaries and from different sources to address complex problems.

8. They do not want to interact with the traditional model. Manually downloading data files from a website is inefficient, slow and unproductive, and impedes innovation. Our output is often an important input to their business processes.

9. Some users expect us to supply data using agreed data structure definitions in formats such as the Statistical Data and Metadata Exchange (SDMX). This is effective for both parties and allows them to 'pull' or access our information on the fly. Ultimately, agreement to standards for metadata and data across the statistical industry will allow users to access multiple data sources more easily and consistently, regardless of source.

## IV. Transforming output and communication

10. In developing a new approach to dissemination, ABS is using the following principles to guide us to:

- Enhance coherence through storing the most detailed and fully described multi-dimensional data in an output warehouse as the 'one source of truth';
- Promote and use standard approaches to metadata, not just within the organization but across the statistical and information industries;
- Collaborate with similar organizations to share approaches and tools;
- Assemble the many varieties of potential outputs from the 'one source of truth';
- Dynamically compile content to meet the needs of different levels of statistical literacy. Whilst there will be some static content, increasingly, content will be derived dynamically from underlying detailed data and metadata;
- Assemble views of the data and metadata, through a standard library of geographic, graph and visualisation tools;
- Provide open, timely, inexpensive access to public sector information;
- Enable access to data, including large volume data, using machine to machine services;

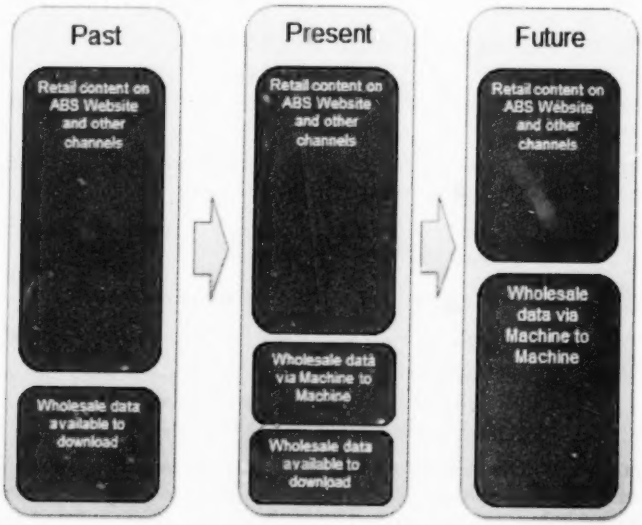
- Focus on user needs through the provision of quality, relevant and timely statistics in ways that users can easily find and understand;
- Provide appropriate content regardless of the channel or device used by users;
- Facilitate re-use of ABS data by external users and third party portals while ensuring visibility of, and attribution to, the ABS brand; and
- Ensure content designed to build statistical capability is visible alongside data, but not intrusive.

11. An important part of responding to the digital revolution is the wholesaling of our data. By wholesaling, we mean the provision of access to large quantities of data/content through machine-to-machine services to be re-used by others in the production of value added products and services for themselves, or their own users.

12. This does not mean that ABS will cease providing data, content or applications itself. We have strong community service obligations, and will always provide a comprehensive and broad range of data and summary content to the Australian community. ABS has the capabilities and the demand to provide trusted, integrated statistical solutions to customers.

13. However, what it does mean is that we will increasingly provide machine-to-machine mechanisms for ourselves and others to integrate, aggregate and re-use our more detailed data in formats and innovative solutions that ABS itself would not otherwise provide. This approach allows others to tailor their use of our data for their own specific purposes, including use within their own systems and business processes, use with commonly used commercial analytical tools, and use to deliver their own value added services.

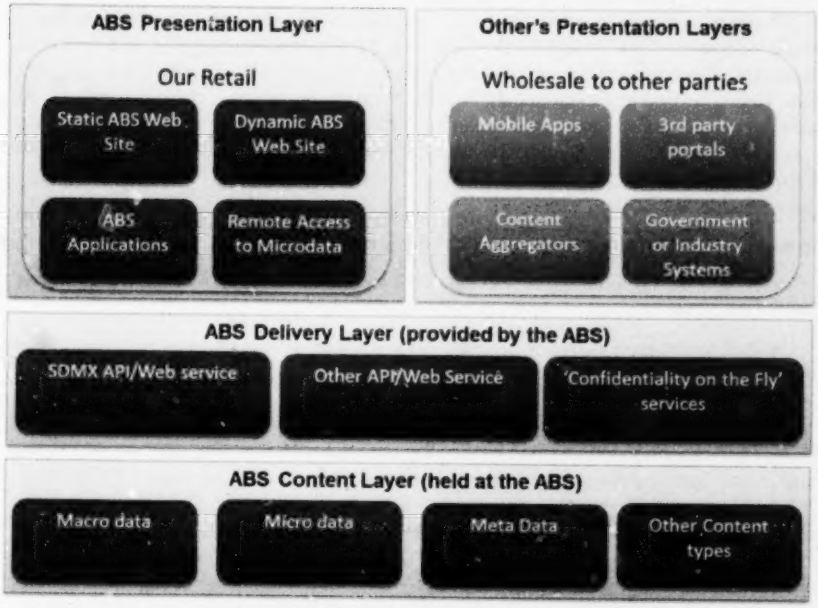
Figure 1
**Transformation of ABS output**


Past
Retail content on ABS Website and other channels
Wholesale data available to download
Present
Retail content on ABS Website and other channels
Wholesale data via Machine to Machine
Wholesale data available to download
Future
Retail content on ABS Website and other channels
Wholesale data via Machine to Machine

## A. Flexible architecture for dynamic publishing

14. The approach requires an architecture (including business, systems and information architecture) which has separate layers for content, for delivery and for presentation.

Figure 2
**The three layer model to support wholesale data**




15. ABS has to be able to build, catalogue, describe, store, protect and access the data content in a consistent manner, independent of how our users will eventually use and consume it. Instead of creating traditional publications, where summary data, detailed data, analysis and stories about the data may exist in one monolithic and static publication, we will focus on creating the underlying elements of content.

16. The delivery layer connects the content to the presentation of this content. There are two important aspects of the delivery layer. The first is the tools that allow users and systems access to the content at various levels of granularity, and the second is the services, also known as APIs or web services, that will ensure our most detailed content can be transformed and made confidential before presenting it to our users ('confidentiality on the fly'). With these, assuming appropriate metadata, the content can be sliced, diced and combined with other content in third party channels.

17. The presentation layer provides a way to effectively address users' different needs, by presenting our content in many different ways, in different formats and on different devices. The presentation layer does not only include the retail provision of statistics and content on ABS channels, but also those presentations of the data and content that the ABS has wholesaled to other parties. It will encompass an increasing number of general and tailored applications, provided by us or by others.

## V. Our own use of data wholesaling

18. An example of our own use of data wholesaling is the ABS Data by Region (DbR) application (www.abs.gov.au/databyregion).

19. Users want to find information about the places in which they live. They want to compare their region with others to see how it fits into the broader Australian context. Over the last decade, the ABS' National Regional Profile (NRP) has been one of the mechanisms to provide this information. The NRP provides regional data from multiple data sets into a single consistent time series. In the past, we have manually compiled and validated thousands of region specific web pages to construct the NRP. Whilst this has saved users from having to find and explore each data set themselves, this process took months, was resource intensive and inefficient. Data in the NRP, once released, wasn't updated until the next annual release, even though new regional data becomes available on a regular basis during the year.

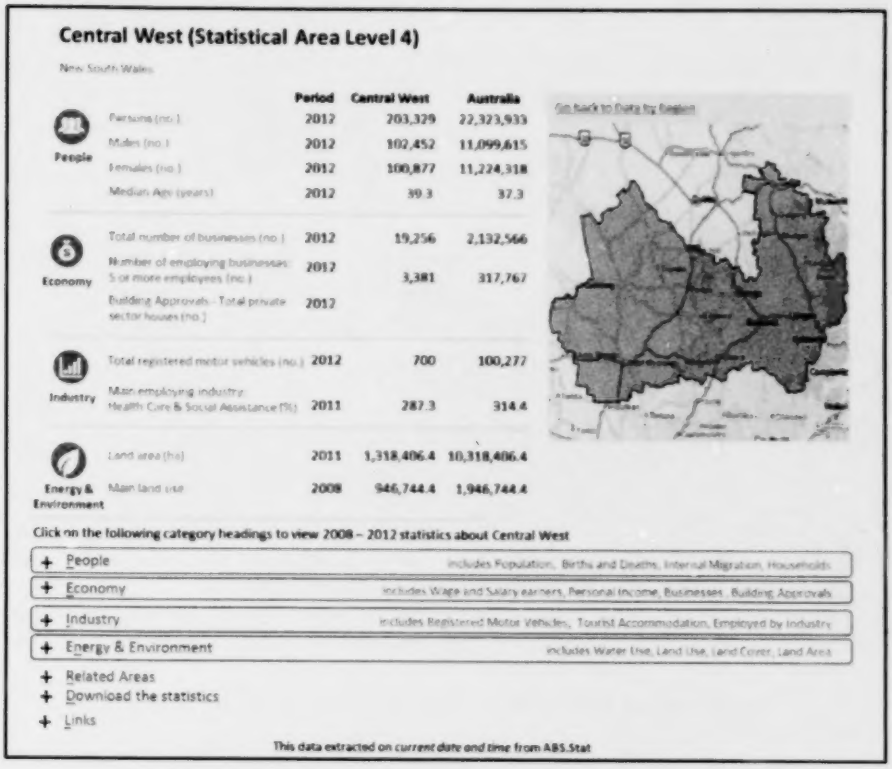
20. In July 2014, ABS developed the Data by Region application. This uses all three layers to deliver a new innovative service to our users:

- A content layer delivered through datasets in ABS.Stat (which is based on the OECD.Stat product used by a number of official statistics organizations);
- A delivery layer delivered through ABS.Stat web services and an ABS developed web service; and
- A presentation layer delivered by the Data by Region application.

21. DbR provides a single entry point for access to ABS statistics by region. It has intuitive navigation through a mapping tool and delivers new statistics as they are released. The biggest revolution of the DbR project is 'under the hood' - with the way it calls information/data from a single centralised repository. When a user selects a region to view, the data is pulled dynamically from the repository. We no longer need to manually build individual datasets for each region. This approach is effectively wholesaling our own data to our own retail applications. It will help us build a sustainable and flexible approach to the dissemination of our content.

Figure 3

**Data on the Central West of New South Wales (NSW) (from Data by Region application)**



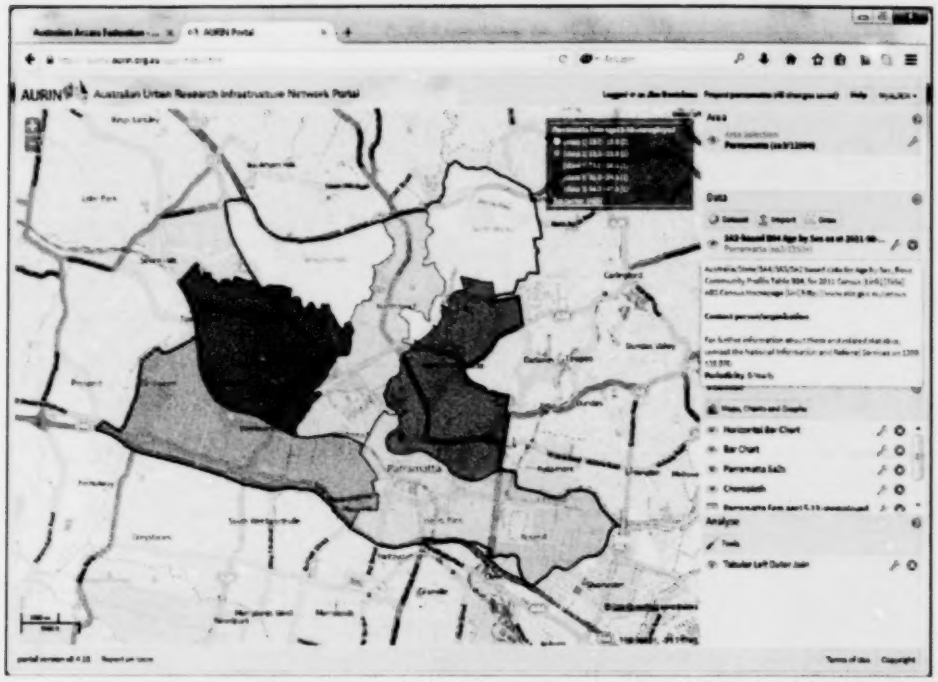

## VI. Other users of our data wholesaling

22. The new ABS web services also allow other parties to access data, securely stored at ABS, in real time, to integrate this data with other datasets and present the output into their own systems. An example of this is the Australian Urban Research Infrastructure Network (AURIN), which is used across the whole of the Australian university sector and beyond (See http://aurin.org.au/).

23. AURIN's aim is to empower urban settlements research and decision making by developing e-infrastructure that drives and anticipates innovation, new methods and practice. AURIN and ABS commenced a joint project mid-2013 to make ABS data sets available to AURIN via on line and real time machine-to-machine services.

24. The project has been successful in demonstrating machine-to-machine access to 2011 Census data through a federated data hub model for delivering statistical data across Australia. AURIN has used their knowledge and tools to present this data in a sophisticated user interface that ABS would never have built. In essence, ABS has wholesaled data to AURIN, to produce a new value added product and service (the AURIN portal).

Figure 4
**Screen shot from the AURIN portal that uses ABS data**




25. The wholesaling of data by ABS has delivered a range of benefits to both AURIN and ABS, including:

- Data presented by AURIN is always the most recent data from the ABS;
- Re-usable services. AURIN is an urban infrastructure portal. Our web services technologies could just as easily support a dedicated environmental or economic portal;
- Productivity gains to AURIN users;
- The ABS has not needed to develop the presentation layer;
- Multiple different developers have provided analytical techniques (both existing and new) for use through the portal;
- Reinforced the need for well-described data and metadata;
- Tested aspects of our future dissemination strategy;
- Increased experience working with the growing sector of information intermediaries.

## VII. Wholesaling microdata

26. A final area where we have made progress is the dynamic generation of aggregates from confidential unit record data. We have invested in the development of a suite of products that allow external research and policy users access to data for subpopulations

without jeopardising privacy and confidentiality. These products allow users to tabulate and analyse microdata and generate dynamically confidentialised outputs.

27. An example of one of these web-based products is TableBuilder (See Survey TableBuilder). This incorporates a perturbation method as part of the delivery layer for automatically protecting tables of count data and key summary statistics such as custom ranges, totals, means, medians and quintiles. This perturbation method mitigates disclosure risks from requests for similar tables, repeated requests for identical tables, and repeated requests for the same table cell within different tables. TableBuilder incorporates other confidentiality algorithms and protections that run on the fly and minimise utility loss, while ensuring that the outputs produced are not likely to enable the identification of a respondent.

28. At the moment, ABS provides the presentation layer for the confidentiality services and analytical techniques are restricted to those we are able to provide. In the future, however, we plan to provide the confidentialisation 'on the fly' as a service so that others can generate confidentialised output for use within their own systems. Along with approaches to provide non-systems solutions for access to microdata, these 'confidentiality on the fly' services will open up more opportunities for our users, especially researchers, to interact with and reuse our more detailed datasets.

## VIII. Going forward

29. ABS recognises the user is no longer just a 'reader' of the Web. Today's web user is a 'protagonist' of the Web. They increasingly play and want to play an active role to disseminate, to share, to discuss, to promote and to reuse information. Wholesaling opens up a wide range of opportunities to connect into the digital economy. By providing wholesale access to data and metadata, users will be able to draw ABS content into their own preferred streams of content, whether that be through new media, their own systems or other as yet unknown innovations. Whilst there will always be a need for ABS to provide content to meet the needs of our users, we predict that the demand for 'wholesaling' of data will continue to grow.

30. We are experts at collecting, processing and analysing statistics. We are not always experts at presenting that data, nor do we have the resources to provide our data in every format or creative style that our users want. We will need others to do that.

31. There are a number of challenges:

- With increased re-use, mashing and distribution of data, sophisticated techniques need to be developed to keep track of attribution, ensure data provenance and protect our brand;
- Our processes and infrastructure need to be scaled to deliver consistent reliability and performance;
- These new approaches present both opportunities and challenges and we need to ensure they mesh well with our strategic goals, operational model and protect our organization's viability.

32. Small steps or large, ABS is committed to this transformation as one worth doing and recognises many other national statistical offices and international agencies are making similar changes. Wholesaling of data is an important part of modernising and maximising the use of ABS data.

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# Statistical survey management platform

**Note by the Turkish Statistical Institute**[1]

*Summary*

This paper presents a recently developed statistical survey management platform designed by the Turkish Statistical Institute to standardize statistical production, increase the quality of statistics and decrease the workload. The platform generates generic applications for operational phases of surveys, in line with the Generic Statistical Business Process Model. Currently, 83 of the total of 92 surveys carried out by Turkish Statistical Institute have been moved onto this platform.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Modernisation of statistical production and services and managing for efficiency".

[1] This document was submitted late due to delayed inputs from other sources.

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# I. Introduction

1. The Turkish Statistical Institute (TurkStat) is the producer and coordinator of the official statistical system in Turkey with a mission to produce high quality statistics. TurkStat recently developed a statistical survey management platform, called Harzemli, to standardize statistical production, increase the quality of statistics and decrease the workload.

2. The Harzemli Platform is based on the Data Documentation Initiative (DDI) and provides an environment for developing generic applications. The system uses a DDI file containing reference and structural metadata information of the survey as an input, and then it generates the survey data entry application with a generic user interface. This results in a desired state where the web, desktop and mobile interfaces for different surveys have the same look and feel as well as the same underlying infrastructure.

3. The Harzemli Platform is an innovative statistical production platform that is currently used in the production of official statistics in Turkey. Before the Harzemli Platform, staff at the Information and Communication Technology (ICT) Department had been assigned the implementation of separate web applications for each survey. Previously, different statistical surveys relied on various software products with different logic, the applications looked and felt different and there was no standard coding approach. The Harzemli Platform has provided a high level of standardization on data collection applications, thus, generating low-cost, better-quality and long lasting applications for all phases of statistical production from data collection to data dissemination.

4. The Harzemli Platform is a tool for the standardization and modernization of the statistical production process. It increases the reliability and consistency of official statistics. The platform also minimizes the time used and provides standards to allow effective production and dissemination of data. It standardizes the names of all variables which helps improve coherence, enables software development with standard application codes, and is not dependent on individual IT persons. Furthermore, a significant outcome introduced by the new platform is the shorter and faster software development process.

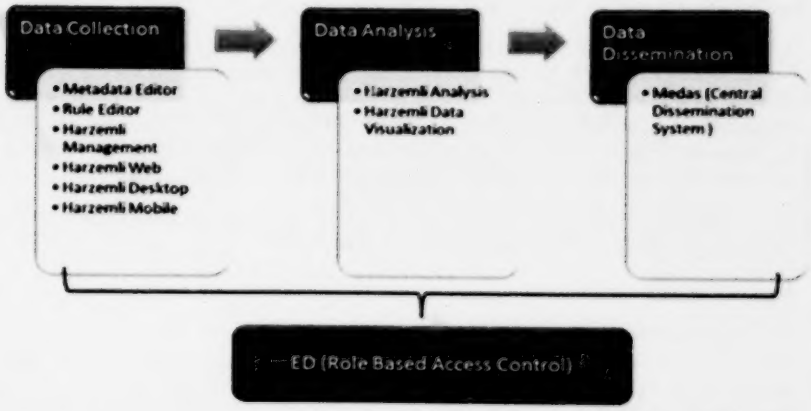
5. The new platform has also improved the dissemination phase, as defined in the Generic Statistical Business Process Model (GSBPM). The end users of statistics are able to make dynamic queries on TurkStat's website in addition to using static tables and statistical releases. Turkstat's new dissemination system, called MEDAS, consists of a common database and a common application for using it. The system allows querying all different statistical subjects at the same time. This unique feature can lead the users to find new combinations of statistical issues.

# II. Description of current work

## A. System components

6. The Harzemli Platform consists of a Role-Based Access Control (RBAC) implementing Identity Management (IDM), Rule Editor, Desktop, Web, Mobile, Management Console, Analysis, Data Visualization and Dissemination projects.

Figure 1
**Harzemli Platform System Components**




### 1. Metadata Editor

7. The Metadata Editor is software used to create the metadata according to international metadata standards (DDI and Dublin Core). It enables entering both the reference and the structural metadata and also allows storing entered metadata as Extensible Markup Language (XML) files in DDI format.

### 2. Rule Editor

8. The Rule Editor is a desktop application used in defining the rules for a field or rules in defining the interactions between the fields in the electronic data collection forms. It can be used to specify simple edit rules, *show* or *hide* fields based on conditions, to make the fields read only, to specify function rules and nullable field rules.

9. The output XML file of the Rule Editor is used as an input to Harzemli Web, Harzemli Desktop, Harzemli Mobile and Harzemli Analysis applications. Using this output XML file throughout data collection phase ensures that erroneous data are not allowed inside input database and controls the flow of the survey.

### 3. Harzemli application platforms

10. Harzemli consists of 3 application platforms as follows:

*(a) Harzemli Desktop*

11. The Harzemli Desktop is a desktop application that is designed to work offline (without any need for internet) to collect data using netbooks/notebooks. The Desktop application is the first data collection project designed in Harzemli among the three data collection tools (Desktop, Web and Mobile) available in the Harzemli platform. It is designed to move from paper based data collection to electronic data collection. It receives the DDI and rule XML files as input and generates the data collection user interfaces for surveys. The main benefit of Harzemli Desktop is that it allows the field interviewers to collect data electronically without an internet connection. When the internet connection becomes available, application synchronizes the off-line content with the central database in a bidirectional manner.

*(b) Harzemli Web*

12. Harzemli Web is a web application that transforms survey questionnaires prepared in DDI format into the respective data collection applications.

13. With guidance from the Metadata and Standards Department and the Information Technologies Department, the subject matter departments design the layout and appearance of their survey forms. Harzemli Web dynamically generates the survey forms through processing DDI and Rule XML files. Production units decide the design of the web pages by preparing these files. Units decide on how many pages the survey should be, how many sections it will have, the length of the textboxes, the usage of buttons and so on.

14. Harzemli Web has two perspectives, standard perspective and analysis perspective, which provide data collection and data analysis functionalities.

*(c) Harzemli Mobile*

15. Harzemli Mobile is an Android application that is designed to be used in tablets. The aim of Harzemli Mobile is to take advantage of mobile operating systems and light weight devices in the field. Similar to Harzemli Desktop, by using DDI and rule XML files as input, Harzemli Mobile generates data collection applications dynamically. Harzemli Mobile is able to save data offline without any need for internet connection. When the internet connection becomes available it is possible to transfer the data from tablets to central databases through web services.

## 4. Harzemli Management Console

16. Harzemli Management Console is a web application that is used for authentication, authorization, notification through text messages, and for reporting and planning surveys. Harzemli Management Console automatically generates the necessary database tables using the DDI and rule XML files for surveys as input. It is also used for managing the sample. Any special need with respect to surveys is covered by Harzemli Management Console.

## 5. Role-Based Access Control

17. Role-Based Access Control is an application that provides access to programs/applications with hierarchical role-based authorization.

18. The types of roles in this system are:

- The main roles of the unit: It is given by default to the unit manager.
- Sub-roles: Roles that are created by the unit manager.

19. Unit manager can authorize the staff by creating several sub-roles. The system is integrated with human resources system. The authorizations are given to the management roles in the hierarchy. Field survey staff and external survey respondents can be authorized by the managers using the system.

## 6. Harzemli Analysis

20. Harzemli Analysis is a data analysis tool that allows the users to perform different analysis on data through different technologies. Users of this analysis tool are able to create and run their own error finder rules through automatic transformation from logical expressions into the Structured Query Language (SQL) which is a standard language for accessing databases. The user may also run special queries (through automatic transformation from XML based rules to SQL statements) and analysis on files from other statistical analysis systems (including the Statistical Package for the Social Sciences

(SPSS), the Statistical Analysis Software (SAS) and the R-programming language) for advanced analytics.

### 7. Harzemli Data Visualization

21. Harzemli Data Visualization tool allows statistical analysis with the graphics created by using the data collected by the Harzemli Platform. With this application, SQL sentence which is generated according to the table selected by the user and column values of this table are sent to the (R) server. Visualization of data is implemented according to the data type and parameters selected by user.

### 8. Data dissemination (MEDAS)

22. The number of printed statistical publications is reducing. The fact that the Statistical Yearbook, prepared by Statistics Canada, will no longer be published is an example of this development. Electronic dissemination may be the main publication channel in the near future. Typically statistical institutes use various electronic dissemination channels: press releases, predefined tables, dissemination databases (databanks), microdata files, thematic publications, etc. The dissemination databases on the TurkStat website can be defined as an aggregated data repository that is populated with data from microdata warehouses. Microdata warehouses are often considered as service developed for researchers, academics, data miners or for other heavy users of statistics. Known advantages of databases can be classified as; avoiding duplication of information, helping to develop web applications, security, quick access to updated data, multi-language possibilities, and enforced provision of metadata.

23. TurkStat has had a dissemination database for more than a decade. However, the strategy for adding new statistics in the dissemination database has been to find a tailored solution for each case with the ICT Department which assigns a database specialist to carry out the task. The specialist would hold some meetings with the statistical subject matter unit in question, and then prepare tables specifically designed for the statistic in question. The new table would not relate to other statistics directly and there would not be any central metadata repository that could lead the end user to the related statistical topics. Hence, the end user must work hard to be able to combine different statistics together for analysis, and will have to open different tables and reports and merge the data manually into a single spreadsheet.

24. One other handicap of the old system was the web application part. As mentioned above, each statistical topic has its own database tables applying different structures. This not only brought maintenance problems to the ICT Department, but also resulted in developing different Java applications for each statistic, which added maintenance problems and is highly dependent on individual IT specialists. End users had to deal with various web applications although the ICT Department worked hard to provide an interface that looks as if there was just one single application behind. However, there was a lack of consistency between the applications that was also visible when querying in the different databases.

25. Moreover, making new statistics available to users involved a manual process. The subject matter unit staff contacted the database specialist saying that the related press release is released and data can be shared with end users. After that, the database specialist loaded the final data to the dissemination database. This required various different data flows, wikis and codes for each statistic. In addition, one of the main reasons for the change was that the old technology used for dissemination databases was vulnerable to security threats.

26. The ICT Department conducted a study on possibilities to standardize the above-mentioned processes without changing the content. The database design was the challenging part, since all queries into the databases required first selecting a specific statistical topic. Instead, the new approach should be generic and allow the user to see a single report regardless of the number of statistical topics chosen. The data should be provided in modern pivot tables.

27. The role of metadata for internal processes is considered important in TurkStat, especially since 2012. TurkStat has been using a classification server for a decade. After analysing its data structure, TurkStat decided that the metadata of MEDAS, the new data dissemination system, could be based on the existing classification server. Some statistical topics were chosen as pilot areas for the new system. The results of these pilot projects were considered quite satisfactory. MEDAS is now in use since April 2014. Hence, TurkStat is now migrating its old-fashioned dissemination databases to MEDAS. All new statistics that will be provided via the databank are developed using MEDAS. Workshops have been held to inform the staff of subject matter units about the new data structure of MEDAS.

28. To sum up the key impact of the new databank system with MEDAS:

(a) The ICT Department builds the framework and the data are filled in by the subject matter units. This reduces the burden on ICT staff and ICT directors. There is only one dissemination schema and one database design that includes all the dissemination data. There is only one databank application. However, some other practical applications are and will be written based on MEDAS data. MEDAS reports reduce the reporting burden on ICT staff;

(b) Manual interventions in the data dissemination phase have been reduced, and there is no longer a need to wait for a call or email from the subject matter unit saying that the data could be uploaded to the web. MEDAS waits for the related press release (if any) to be released and the data are shown to the end users after the release data;

(c) Users are now able to use modern pivot reports and compare any number of subjects in the same report page;

(d) The uniform data model makes it easy to develop web services. MEDAS, especially with its data design, is an innovation for statistical production processes and some developments are being conducted for serving the data with graphs and thematic maps.

## B. Objectives

29. The main objectives of the Harzemli Platform are

- to shorten the process of coding for data entry programme;
- to reduce dependency on developers when developing data entry programmes;
- to develop data entry programme with standard application codes;
- to standardize the names and code lists of all the variables for integrity of data;
- to ensure faster compilation of private sector data entry by respondents in the survey and the immediate correction of erroneous input data.

30. The model could be a reference to other public institutions for their statistical production processes.

## C. Implementation steps

### 1. Feasibility study

31. After analyzing an XML based generic application development platform, named "wizard", TurkStat decided to launch the Harzemli Project, an advanced version of this "wizard" application.

### 2. Cost-benefit analysis

32. A cost- benefit analysis was conducted on the potential benefits and outcomes of the project. It was decided that instead of buying software or outsourcing, it would be more feasible to create our own software with the efforts of staff at the ICT Department.

### 3. Risk management plan

33. Risk prevention plan has been developed based on risk assumptions. The underlying conditions are determined using expert knowledge and experiences gained during the development of wizard application.

### 4. Quality management plan

34. Quality management plan has been defined with the aim of using DDI xml format in an efficient way and benefitting from recent development of the DDI standard.

### 5. Change management plan

35. Change management plan has been developed based on job steps which are required to be made and followed when a revision request made about survey studies.

### 6. Human resources management plan

36. Human resources management plan consists of defining project roles, assigning responsibilities and designing project organization schema. The number of project team members was increased step by step by using the human resource management plan after implementing the first few modules of the project successfully.

### 7. Disclosure and analysis of requirements

37. At the beginning of the project, the labour force survey was selected as a pilot study. In order to analyze processes and to understand application requirements in detail, a joint working group of software developers, subject matter unit staff and users of the application was set up.

38. System and user requirements (functional, non-functional and quality requirements) are defined based on the meeting decisions regarding business logic and data structure of the application. These meetings are organized a way that requests from the end users can also be incorporated into the general requirements.

### 8. Project management

39. After completion of planning and requirement analysis, tasks were assigned and development phase of the project started. In the management of the project, agile project management methods are used so that the project modules can be extended based on the user requirements. First, the Harzemli Desktop module was developed. Based on the experiences gained in the development of the Harzemli Desktop, Harzemli Web and Harzemli Mobile modules were designed. The most complex and error prone requirements and components were identified to be developed first to detect the possible errors at the

beginning of the project. The pilot, the labor force survey, was selected because it contains many of the requirements that the other surveys have and has a complex workflow.

### 9. Defining changing requests and implementation of approved ones

40. In the quality control testing phase, tests were carried out to control whether the requirements are met properly. Any errors were detected and flagged to be fixed. In order to mitigate the risks, in order to prevent collecting incorrect or missing data, paper forms were continued to be used in parallel in the first few pilot studies. The most complex studies are implemented by using the Harzemli Project in developing Harzemli modules.

### 10. System test

41. The ICT Department manages the testing activities by defining test scenarios and tracking these test cases. Survey on Information and Communications Technologies (ICT) Usage in Households was the first study implemented fully by Harzemli Desktop. It was tested by staff responsible with defining survey requirements in the statistical unit, software test professionals in the ICT Department and by staff responsible for collecting data via the application. After completion of the testing phase, most of the bugs and inaccurate workflow of the application were fixed by the project team before the application was ready to be used in real environment. Each new release of application is tested by both testing staff and statistical unit staff. In order to run a performance test on the application which is used by lots of users, it is tested by simulating users generated by test simulation tools.

## D. Project milestones and results

42. The project milestones are as presented below:

Table 1
**Harzemli Platform Project Milestones**

| | Milestones of the project | Development year |
|---|---|---|
| 1 | Harzemli Desktop | 2012 |
| 2 | Harzemli Rule Editor | 2012 |
| 3 | Harzemli Management Console | 2012 |
| 4 | IDM | 2013 |
| 5 | Harzemli Web | 2013 |
| 6 | MEDAS | 2014 |
| 7 | Harzemli Mobile | 2014 |
| 8 | Harzemli Analysis | 2014 |

**Results**

43. In 2013, 32 surveys were implemented in the Harzemli Project. Out of these 32 surveys, 6 were designed in Harzemli Desktop and 26 were designed in Harzemli Web. As of 2014, the total number of surveys moved to Harzemli is 82. In 2015, 22 more surveys will be moved to Harzemli (see table 2).

Table 2
**Results of Harzemli Project**

| | Harzemli Desktop | Harzemli Web | Harzemli Mobile | |
|---|---|---|---|---|
| 2013 | 6 | 26 | * | 32 |
| 2014 | 4 | 46 | * | 50 |
| 2015 | 2 | 13 | 7 | 22 |
| TOTAL | 12 | 85 | 7 | 104 |

# III. Conclusion

44. As the Harzemli Platform uses common classification and code lists, it not only standardizes data collection and dissemination processes, but also shortens the duration of preparation time for data entry programs from 40 days to 10 days, and shortens the time needed for preparing statistical releases for a minimum of 4 days.

45. So far, the Harzemli Platform has proven to be a great success and has been strongly supported by both the management and staff. The Harzemli Platform will be enlarged in the near future by adding new modules that are currently being developed.

## A. Productivity gains

### 1. Time

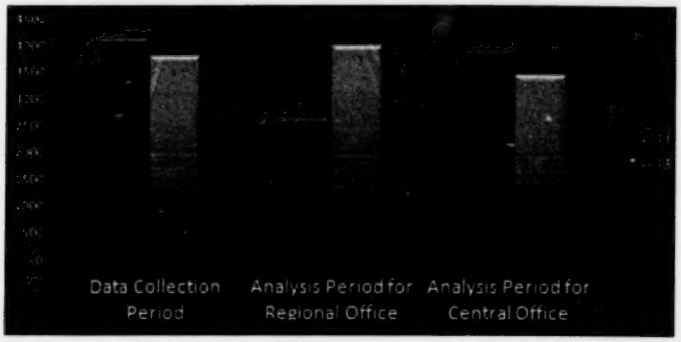
*(a) Decreased time for software engineers to develop data entry applications*

46. For every survey conducted by TurkStat, study-specific software development has been eliminated. Depending on the type of the survey, data entry programmes are now automatically created through one of the three data entry applications (Harzemli Desktop, Web or Mobile applications) based on XML files used for defining the metadata and rules (i.e. DDI.xml and Rule.XML). While the average time necessary for developing a data entry programme for a statistical survey with an average level of difficulty was about 4 weeks, it is now only a week.

*(b) Decreased time for data collection*

47. Before the Harzemli Platform, surveys were printed and sent to the respondents to collect data. Data entry was performed in regional offices through processing forms that had previously been filled in the paper by respondents. Using the Harzemli Platform data are directly collected from the respondents, thus saving time and labour. Data collection time is shortened by 8 per cent and because of instant access to data, analysis time available for regional offices has been increased by 50 per cent. As data come directly from respondents to TurkStat and from the regions, regional offices are now able to spend more time on data processing and analysis. This has led to a 12 per cent decrease in the analysis time that is necessary for the officers at the central office.

Figure 2
**Time for data collection and analysis**




*(c) Decreased time for preparation of press releases*

48. Having the collected data transmitted instantly to the central office and diminishing the necessary time for analysis, data dissemination has been quickened. The time period necessary to prepare the press releases has been shortened. For example, the time period that is necessary for the preparation of the monthly labor statistics statistical releases has been shortened by 4 days.

## 2. Quality

*(a) Software process standardization*

49. With the Harzemli Platform, standard business processes have been established and job descriptions have been updated. Thus, control, consistency and order of processes are established and complexity is reduced. Dependency of the software process on individual persons has been reduced.

*(b) Data integrity*

50. In order to generate data with the Harzemli Platform, usage of standard code lists and standard variable definitions ensure better coherence of data. Code lists and variables were not common for usage for each study before the Harzemli project. Through standardization, possibilities for data matching between surveys have improved. Thus, it also made possible the development of data exchange and distribution software at TurkStat.

*(c) Common code development*

51. Before the Harzemli Platform, applications for each survey were developed using different programming languages and technologies. Therefore, it was almost impossible to inspect the quality of all the applications. Prior to the Harzemli project, maintenance, quality assurance and software testing were done for 90 separate data entry applications whereas now this has been reduced to only 3 applications (namely, Harzemli Desktop, Harzemli Web and Harzemli Mobile). Switching from individual software development to unified development process, more functional, reusable, multi-purpose applications with standardized interface have been developed.

*(d) Common components available*

52. Software code written prior to the Harzemli project has been split into modules as the project has progressed and layering has been implemented. The software components

have been optimized to be suitable for being commonly used in Harzemli Desktop, Web and Mobile applications and, thus, the costs of separately writing and maintaining components have disappeared. Having metadata standardization done and the standard reporting mechanism accomplished under, the need to write separate programmes for each statistics is eliminated.

### 3. Costs

*Paper*

53. In order to keep pace with constantly evolving technology, and to further reduce manual labour and costs to produce data in a timely and efficient manner, TurkStat is already carrying out all business surveys through the Harzemli Web application. Paper editions of these surveys have been cancelled. In 2014, thanks to the Harzemli Project, 7 565 680 sheets of paper were saved for all surveys targeted at a total of 756 568 respondents.

54. In 2015, the sample volume has reached the level of 2 045 974 respondents through Harzemli Web and Harzemli Mobile applications. Considering that an average of 10 pages are needed for conducting a survey with a respondent, 20 459 740 sheets of paper savings are anticipated.

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**Response by official statistics to the Sustainable Development Goals**

# Measuring sustainable development and wellbeing of people: challenges and the role of National Statistical Institutes

**Note by the National Statistical Institute of Italy (ISTAT)**

*Summary*

The paper presents an overview of measuring sustainable development and wellbeing in Italy in the context of the Equitable and Sustainable Development initiative (Benessere equo e sostenibile - BES). The paper also presents the results of pilot testing of the CES framework in Italy. The conclusions include recommendations for developing the SDG indicator framework.

The paper is presented for discussion to the first session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

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# I. Executive summary

1. The coordination role of the National Statistical Institute is essential for the reporting and monitoring process of the SDGs. For Italy this will be carried out based on the existing National Statistical System, reinforcing the relationships with the national stakeholders and producers, and taking in consideration the BES initiative (Benessere equo e sostenibile – Equitable and Sustainable Wellbeing), involving all major representatives of Italian civil society and promoting consultation with citizens.

2. In Italy, sustainability is measured in the context of the BES initiative, in line with the United Nations 2013 declaration that sustainable development is about wellbeing of people, and with the ongoing "beyond GDP" initiatives. Measurement of well-being and sustainability represents a major challenge for the BES. The adopted measurement methods rely mainly on observations (set of indicators) and on forward-looking models. The Italian set of indicators for sustainability assessment is based on 12 domains of wellbeing and their inter-linkages, and on indicators that highlight vulnerabilities and resilience (indicators on risk factors, capabilities and capital). Some policy utilization of the BES framework will also be presented.

3. Finally, as ISTAT pilot tested the UNECE-CES framework for measuring sustainable development, a comparative analysis between the CES and ISTAT-BES frameworks will be done to propose a subset of relevant indicators for the UNECE region. In addition, ISTAT conducted a first analysis of the SDG indicators proposed for the targets identified by the Open Working Group (OWG). Some early considerations on the monitoring system and on consistency between measuring sustainable development at the national, regional and global level will be presented.

# II. Introduction

4. The Sustainable Development Goals (SDGs) process implies the definition of many new goals and targets compared with the Millennium Development Goals (MDGs). The statistical community is required to discuss the measurability of those goals and targets. A long list of provisional indicators has been proposed. The statistical community is also discussing the relevance, feasibility and other quality characteristics of the proposed indicators. In this process the National Statistical Institutes are called to play a role and to stimulate debate for selecting the best indicator framework for monitoring the SDGs. Therefore, it is necessary to strengthen the NSI's role in coordinating the national statistical system, involving not only central and local governments but also the private sector, research and civil society organizations.

5. A clear coordination role of the NSIs needs to be defined for an effective global, regional and national indicator framework and the SDG monitoring process, to stimulate all the national and international statistical actors (inside and outside countries) and implement efficient production processes.

6. This is essential for the development of a high quality and robust indicator framework, capable to capture the post-2015 challenges and to serve as well as possible sustainable development. The global indicator framework should be limited and should include multi-purpose indicators that address several targets at the same time. Although we call for a limited number of indicators we are also aware that the number of indicators in the existing list is very high. The creation of "headline"

indicators (possibly one indicator for each goal) and of "supporting" indicators could be a good way forward.

7. To ensure that the framework of global indicators captures the integrated and transformative nature of the goals and targets, it is important to build them on what it is already developed and take stock of existing experiences. At the same time it is important to carry out research in new areas where international statistical standards are missing (for example governance and peace).

8. In the last 7 months ISTAT participated in the process of selecting indicators for the monitoring of SDGs. ISTAT is also involved in the work of the UN Statistical Commission (UNSC) Friends of the Chair group (FOC). Since the beginning, ISTAT has contributed to the FOC activities with the aim of using the progress and well-being measures based on the Italian BES project.

9. The first identification of indicators was done taking into consideration the goals and targets that the Open Working Group defined in the Zero Draft Note. In September/December 2014, as part of the FOC group, ISTAT participated in the assessment of the availability of statistical data and the feasibility of the SDG indicators for evaluating the measurement framework. The FOC discussed the possible indicators also with reference to the CES framework and completed the compendium of national practices on broader measures of progress.

10. At the end of February, UNSD launched a similar survey on a different set of indicators for the monitoring of the SDGs, deriving from UN agencies (the so-called Technical Support Team (TST) proposal). With respect to the FOC proposal, only 24 indicators were common, 47 were similar, and 233 were completely different. The main difference between the two lists is that the FOC indicators come from sustainable development frameworks developed and tested in other contexts (CES and MDGs, SDSN, Eurostat, OECD), while the indicators presented by TST are mainly produced by international organizations (such as FAO, ILO, UNICEF, World Bank) and are not based on any specific framework of sustainable development. Within two weeks, with great efforts to ensure internal consultation, ISTAT replied to the questionnaire evaluating each proposed indicator in terms of its feasibility, suitability and relevance.

11. On 14th March 2015 the UNSC sent a "Draft report summarizing the first results of the survey" and ISTAT provided some comments. On 19th March all countries received the final version of the Report for discussion during political negotiations.

12. During 2014, ISTAT also participated in the pilot testing of the CES Framework for Measuring Sustainable Development. This exercise has also been useful for developing the national framework of sustainability of well-being.

13. ISTAT is contributing to the UN post-2015 and SDG discussion at the national level as well, participating in roundtables organized by Italian Ministries.

14. At the same time ISTAT is developing a system for supporting evidence based decision making, developing new data, modernising the statistical production process and improving communication of statistical information.

15. In this paper we will present the national experience in measuring well-being and sustainability, the pilot testing of the CES framework and comparing it with the Italian BES project. The conclusions will include recommendations how to develop the SDG indicator framework.

# III. National experience

16. Italy is approaching the measurement of sustainability in the context of the BES initiative, in line with the declaration of the United Nations RIO+20 Conference in 2013 (see para 38 of the outcome document *The Future We Want*) that the aim of sustainable development is wellbeing of people, and with the ongoing "beyond GDP" initiatives.

17. Moreover, the Conference of European Statisticians framework has also been utilized for the national discussion on sustainable well-being indicators.

## A. The BES initiative: measuring equitable and sustainable well-being

18. In line with the most advanced experiences all over the world and as recommended by the Stiglitz-Sen-Fitoussi Commission, in December 2010 the National Council for Economics and Labour (CNEL) and the Italian National Institute of Statistics (ISTAT) committed themselves to provide Italian society with a measurement tool for progress in Italy. The inter-institutional initiative is called "Equitable and Sustainable Well-being" (Benessere Equo e Sostenibile - BES) and aims at giving the country a shared perspective on the economic, social, and environmental conditions and their distribution within and between generations. In particular, the initiative's objectives are to:

(a) develop a shared definition of progress in the Italian society, by defining the most relevant economic, social and environmental domains;

(b) select a set of high-quality statistical indicators that are representative of the different domains;

(c) communicate the results of this process, informing citizens of indicator values in the most thorough possible way. The set of indicators defined is intended for a broad public audience as well as for policy users.

19. BES framework represents an initiative of great scientific importance, which places Italy in the forefront of the international panorama for the development of well-being indicators "beyond GDP". In order to guarantee it a strong legitimacy, the initiative involves all major representatives of Italian civil society through the institution of a Steering Committee and a Scientific Commission, and the promotion of citizens' consultation instruments.

20. The Steering Committee has the mandate to select the relevant domains for well-being and ensures the participation of trade associations, trade unions and relevant third sector organizations such as women's, environmental and consumer organizations and broad civil society platforms. The Committee selected 12 domains: Health, Education and training, Work and life balance, Economic well-being, Social relationships, Policy and institutions, Security, Subjective well-being, Landscape and cultural heritage, Environment, Research and innovation, and Quality of services to be included in the initial framework as main themes for analysing well-being in Italy.

21. This was the starting point for the Scientific Commission which is hosted by ISTAT and composed of more than 80 experts from academia, research centres and ISTAT. Up to now the Commission selected 134 indicators which are generally available at regional level and that can be disaggregated by gender and age. The Commission considers separately the well-being indicators, mainly focusing on

outcomes, their distribution among social groups, and the aspects of economic, social, and environmental sustainability.

22. All relevant information are communicated on the project website www.misuredelbenessere.it, such as the two annual Reports produced until now, the synthesis, the description of all domains and indicators, and the full set of time series data by regions, sex and age.

23. The BES initiative implied a big methodological investment for the theoretical definition of the BES framework and development of new indicators using the existing data sources. Moreover, further work is in progress in order to 1) elaborate composite indicators; 2) assess well-being inequalities; 3) define and measure well-being sustainability; 4) apply the BES framework at local level.

24. The National Council for Economics and Labour (CNEL), the National Association of Italian Municipalities (ANCI) and ISTAT are exploring the implementation of the BES framework at local level through the URBES project. This projects aims at defining a set of well-being indicators for the 15 biggest Italian cities. Three URBES reports have been published (June 2013, June 2014, April 2015) but this represents only an initial step. The project has close connections with the research and work on "smart cities", promoted by the Italian Government, where smartness is seen as a collection of tools for fostering citizens' quality of life.

## B. Sustainability of well-being

25. Well-being is a multidimensional concept which changes according to time, place and culture. Therefore, the identification of domains and indicators to measure well-being is always an exercise that reflects norms, values and priorities of those who participate in the selection process.

26. For sustainability in Italy, some key characteristics have been taken into consideration, such as uncertainty, complexity, dynamics, global perspective and inter-linkages. Measuring sustainability is therefore a complex process combining different knowledge and disciplines. It is a way of modeling and representing complexity and inter-linkages among different systems, people and dimensions of life, taking in consideration time and space. It may imply a trade-off among different domains of well-being (for example, policies on energy, environmental protection, social welfare and economic development may pursue different aims). In addition, the ecological conditions are enabling conditions for sustainability. The ecological conditions are the basis of the vitality of natural systems and therefore the structures, processes, functions of ecosystems are in continuously evolving dynamics that interfaces with social systems.

27. In practice the Italian model monitors well-being over time and space (represented by all the outcomes of the BES), and assesses whether it can improve or remain at the same level without compromising the needs of present and future generations. In order to do this, an interpretative model on how and what determines well-being is required.

28. The CES framework was considered as a starting point, then the approach was extended.

29. The two key assumptions in the BES framework are that there is progress of well-being when it is equitable and sustainable over time, and that well-being is sustainable when it can be maintained or improved for present and future generations over time and space.

30. The measurement methods have focused mainly on observations (set of indicators) and forward-looking models.

31. The first method included development of a dashboard of indicators that highlights vulnerabilities and resiliencies over the 12 domains of wellbeing selected for Italy, and that captures the interactions among domains. The vulnerabilities focus on the risk factors that undermine the ability to maintain or achieve equilibrium or the optimal level of well-being, and to maintain and possibly improve levels of wellbeing outcomes achieved. Resilience is defined as the ability to withstand adverse shocks and ability to facilitate equilibrium and thus maintain or increase levels of well-being achieved. The observation of indicators of vulnerability and resilience allows us to design a path suitable for the measurement of sustainability in all dimensions of well-being and to assess the sustainability of well-being.

32. The second method focused on forecasting models which explain interactions between aggregates taking into consideration the three dimensions of sustainability: economic, social and environmental. Its aim is to facilitate ex-ante and ex-post evaluation policies. A General Economic Equilibrium Theory model (called MeMoIT) is used with additional modules on energy and emissions, and another module on distributional aspects of household income. Recently ISTAT has been developing an alternative approach where a well-being production function is estimated as the target of policy.

33. There is an objective difficulty in measuring the sustainability of well-being, in correlating the various areas and understanding the meaning of relationships, as well as analysing trends. It is important to look at the drivers of well-being outcomes (statistical models for analysing interrelations). But the real challenge is to identify indicators on inter-linkages among BES domains.

## C. The Italian experience on piloting the CES framework

34. During 2014 ISTAT carried out the pilot testing of the CES framework. An intermediary report was produced early in June and a final report in December[1]. The exercise was conducted with a real collection of data on the 95 indicators proposed by the CES. Italy could provide data for 81 indicators.

### 1. Observations on experimental data collection for the CES framework

*(a) General observations*

35. According to the analysis carried out for the small set suggested by the *CES Recommendations on Measuring Sustainable Development*, the Italian conclusion was that the CES small set puts too much emphasis on economic indicators, such as GDP and related measures. The social and environmental indicators were not sufficiently represented. On the other hand, the large set is better balanced including a good selection of social and environmental indicators. Still we believe that, at least as concerns the small set, the construction of a good set of indicators on sustainability of well-being should be based more on social and environmental aspects.

[1] http://www.misuredelbenessere.it/fileadmin/upload/docPdf/Piloting_CES_-sustainability_text_to_Data_collection_LARGE_SET_ITALY.pdf

36. Looking at the analysis of the data collected for the CES "large set" it shows that 81 out of 95 proposed CES indicators are produced by Italian sources. ISTAT data sources provide 60 indicators and the 21 remaining indicators can be obtained from the official statistical system (Ministries and National Research Institutes). Of the 14 missing indicators, 11 are place holders (indicators that are needed but not yet available). With additional efforts this gap could be further reduced.

*(b) CES and BES comparison*

37. Concerning the comparison of the CES and the BES frameworks, among the 57 CES indicators produced by ISTAT, 26 indicators share the core definition with the Italian BES framework (for specific observations on slight differences, please see the full report referred earlier). The common indicators mostly relate to social themes such as of Health and Nutrition, Educational attainment, Trust and Institutions, Physical safety and Subjective well-being (which are identical to some of the BES domains). By contrast, concerning the environmental themes, only 5 BES indicators are in common out of 34 proposed in the CES framework. The remaining indicators collected in Italy are mostly produced by the Ministry of Environment and the Environmental Research Center (ISPRA). It should be noted that BES has two domains for environmental issues: one directly connected to the Environment and another connected to Landscape and Cultural Heritage.

38. It is worth highlighting in detail some strengths and weaknesses of the BES in relation to the CES to take advantage from both frameworks:

(a) The BES domain "Subjective well-being" is richer with three indicators in the domain (overall life satisfaction; satisfaction over the leisure time and expectations for the future) and with other indicators in other domains. The CES framework could be improved by including more indicators on subjective well-being. In Italy many subjective indicators related to perceptions and opinions of individuals are considered because often they are good predictors of the future reality and then they will be visible in objective indicators;

(b) Concerning the "economic well-being" dimension, the BES indicators are more focused on measuring inequality and poverty, while highlighting issues such as maternity, working women, time balance between work and family, etc. On the contrary the CES framework focuses mostly on traditional economic measures like gender pay gap;

(c) Two indicators from the CES framework, health expenditure and education expenditure, are not included in the BES but could be added;

(d) The CES theme "housing" is still underdeveloped with three place holder indicators. In Italy all three indicators are available and there is one additional indicator on material deprivation that belongs to the "economic well-being domain" in the BES framework;

(e) Knowledge capital is included in both frameworks (knowledge spillovers and R&D expenditure). In addition, the BES provides a long list of other indicators which could be included in the CES (propensity to patent; impact of knowledge workers on employment; specialization in knowledge-intensive sectors; intensity of internet use).

39. It is worth mentioning that the BES framework is not completed and in particular, the development of the part related to the sustainability indicators is on-going. According to the BES sustainability framework described in the previous section, new indicators and new data will become available in future. A provisional

version of those new indicators is presented in the final report of December 2014. The forthcoming indicators are mainly indicators of resilience (resilience capacity of rural areas, internet use for public purposes, waste differentiation, access to health services) and of vulnerability (exposure to hydrogeological instability, exposure to earthquakes, risk of mortality/morbidity due to pollution of land/water/air, environmental satisfaction, work related injuries, material deprivation of children, early child engagement). Other horizontal indicators will be considered in the BES framework, such as demographic dynamics, migration flows, import/export flows, development aid, climate change indicators, macroeconomic imbalance, and external energy dependence.

40. Concerning the distribution or inequality indicators, it is worth highlighting that the BES framework already includes several such indicators (Gini coefficient, asymmetry index of family work, rate of physical violence on women, rate of sexual violence on women, rate of domestic violence on women, fear to be a victim of sexual crime, representation of women in Parliament, political representation of women at the regional level, women in decision-making bodies, women in the boards of companies listed in the stock exchange). Almost all the BES indicators are disaggregated by gender, age and territory. This aspect is planned to be strengthened even more to develop the equity dimension of the BES by looking at some disadvantaged social groups, or identifying critical limits of inequality for the sustainability of well-being.

*(c) Place holder indicators*

41. From the 22 place holder indicators in the CES framework, ISTAT and other institutional sources can provide 11 indicators. The remaining place holder indicators can be potentially available after some development work.

42. An assessment of each place holder is provided below: 1) "distribution health" is basically already available but still needs some further work; 2) "migration of human capital" - migration flows have been considered as these can be easily converted into human capital taking into account the level of education; 3) "distribution education" is provided as upper secondary education broken down by gender and territory; 4) "housing stock" is interpreted as the net capital stock of the housing sector; 5) "investment in housing" - gross fixed investment in housing; 6) "housing affordability" is already a BES indicator; 7) "expenditure on safety" is used by the Ministry of Economy and Finance; 8) "land assets" - average land value from the National Agricultural Economics Institute; 9) "emission to soil" is already an ISPRA indicator and measures CO2 equivalent of the GHG emissions in the agricultural sector; 10, 11, 12) "land footprint", "water footprint" and "carbon footprint" are potentially available but do not come from an official statistical sources and ISTAT is not in favour of using them; 13) "water quality index" is a BES indicator interpreted as a percentage of bathing marine coastal water of total coasts; 14) "emission to water" is potentially available in-house but still under construction; 15) "historical CO2 emissions" is potentially available but not at ISTAT; 16) " energy resources" - used energy material from domestic extraction, an indicator provided in-house; 17) " mineral resources" - used mineral material from domestic extraction; 18) "bridging social capital" is potentially available at ISTAT; 19) "contribution to international institutions" is potentially available but not in ISTAT; 20) "R&D capital stock" is part of the indicator R&D gross capital stock; 21) "export of knowledge capital" is potentially available by ISTAT/Bank of Italy; 22) "social capital" is not yet available but is currently developed in-house.





## 3. Eurostat's activities on GDP and beyond and Quality of Life

13. At the origin of the current Eurostat activities on GDP and beyond are the recommendations of the Report of Sponsorship Group on Measuring Progress, Well-Being and Sustainable Development (2011). GDP and beyond was reflected in the European Statistical Programme and the recommendations of the Sponsorship Group are operationalised in Eurostat's Annual Work Programmes.

*14.* Actions are focused on the 3 main pillars: *strengthening the household perspective & distributional aspects; multidimensional measurement of Quality of Life; environmental sustainability.*

15. The measurement framework of Quality of Life (QoL), which is one of the three pillars of GDP and beyond, covers 9 dimensions: Material living conditions, Health, Governance and basic rights, Productive or main activity, Education, Leisure and social interaction, Economic and physical safety, Natural and living environment, Overall life experience. Measurement of the nine dimensions is carried out through a scoreboard of approximately 90 indicators. 14 headline indicators have been selected to facilitate communication to users. In March 2015 data on the subjective dimension of QoL have been released for the first time.

16. Data come from several sources from within the European Statistical System (ESS), in particular statistics on income and living conditions (SILC), labour force survey (LFS), European Health Interview Survey (EHIS) and administrative sources. In case no data are available from within ESS, external links to non-ESS sources, such as the European Quality of Life Survey (EQLS), are used as placeholders.

17. Dissemination of information on QoL, similarly to Europe 2020, includes wiki articles (Statistics Explained) and a detailed online database. A statistical book is foreseen to be published in June 2015, in which data on objective and subjective indicators will be complementarily used for the evaluation of the different dimensions.

# II. Support to the Post-2015 Development Agenda

18. For the 46th United Nations Statistical Commission session (UNSC) on 3-6 March 2015, Eurostat coordinated an EU common position on data support of the Post-2015 Development Agenda, the main points of which were retained by UNSC. The common EU position encompasses several elements which shape the line of activities of Eurostat such as:

**(a) Ensure independent monitoring:** The future SDG monitoring framework should use rigorous indicators and reliable, timely data-sets produced by the national statistical authorities. The role of the national, supranational (e.g. Eurostat) and regional statistical authorities should be as strong as possible, to ensure independent monitoring;

**(b) Use of existing frameworks:** The indicator set for the SDGs should be based on frameworks to measure sustainable development already in place in several parts of the world and taking into account the Conference of European Statisticians' (CES) *Recommendations on measuring sustainable development* established by a joint UNECE-Eurostat-OECD Task Force. The indicators should meet the statistical standards;

**(c) Filling data gaps:** Work is needed to fill data gaps, even in the developed countries. At ESS level, we already develop new statistics and explore new data sources. However, developing new indicators of sufficient quality requires significant resources and is a medium-term work;

43. A detailed comparison between the CES and the Italian BES indicators is provided at http://www.misuredelbenessere.it/fileadmin/upload/docPdf/Piloting_CES_-sustainability_text_to_Data_collection_LARGE_SET_ITALY.pdf.

44. The main conclusion from the pilot testing of the CES framework, is that Italy is in favour of improving the CES framework based on the large set of indicators, at least for developing the framework of regional SDG indicators, and contributing to formulation of the global indicator framework. Therefore we suggest to experiment collecting data on the large set of indicators, focusing more on social and environmental aspects for sustainability. The UN discussion on SDG indicators suggests considering the large set of indicators and comparing it to the other sets of provisional indicators proposed until now, even if it is still not sufficient to cover all the targets/goals identified. Indicators for new areas, such as governance and peace will have to be developed. The national experiences in measuring well-being and progress should be taken into account.

45. Up to now the work of the Italian Scientific Commission to construct a complete well-being sustainability framework has been focused on producing a dashboard of indicators. The dashboard will include indicators on outcome, distribution, vulnerability and resilience for each BES domain. The sustainability indicators are defined looking at the interrelations among BES domains.

46. To get a complete picture of sustainability, ISTAT is also working on measuring the so-called "transboundary activities" to consider interactions between countries. This means analyzing the environmental, social and economic relationships between countries that impact on the well-being. This includes, for example, aid transfers, imports, migration/human capital transfers (move of national skills abroad reduces the national human capital), financial exposure (can lead to contagion from the financial crisis), energy dependence (can be a vulnerability for a country), supranational scale pollutants, macroeconomic imbalances (EU-MIP-Macroeconomic Imbalances Procedure).

47. Italy is also working at the subnational level trying to identify which aspects are relevant for sustainability of local well-being. Regional level indicators are developed within the BES initiative. In addition, many Italian provinces and metropolitan cities (within URBES initiative) are developing their sets of indicators.

## V. Conclusions and recommendations

48. Some considerations and recommendations are proposed hereafter for the Post 2015 Agenda monitoring, taking into account the pilot testing of the CES framework and the Italian experience in measuring well-being within the BES project.

49. A clear and strong coordinating role of the National Statistical Institutes is needed for effective, efficient and sustainable indicator framework and SDG monitoring process at global, regional and national levels. This enhances the role of statistical producers inside and outside countries to face the challenges coming from the new data needs.

50. At the same time, modernization of statistical production process is required at country level, taking in consideration technological innovation, multidimensional demand and strengthening a multi-source production system. Countries and NSIs need to move towards an integrated system stepping away from a fragmented silo approach. This has to be primarily done by redesigning the production processes at





**(d) Monitoring at different levels:** The focus of SDG monitoring should be at the national level, but complementary monitoring will also occur at regional and global levels using core sets of global and regional indicators. Furthermore, thematic monitoring looking at specific aspects of various territorial details should also be carried out;

**(e) Open to innovations:** The development of a robust and high-quality indicator framework is a technical process that requires time and needs to be conducted in stages, including the possibility of future refinements as knowledge evolves and data availability improves (see point 3).

19. The FOC roadmap – approved by the 46th UNSC session and acknowledged by the Intergovernmental Negotiations (IGN)[1] on 23-27 March 2015 – foresees the creation of an Inter-Agency Expert Group on SDG indicators (IAEG-SDG). At the moment, the group is in process of establishment and Eurostat will be part of the IAEG-SDG as an observer.

20. With regard to SDGs, Eurostat will continue to fulfil its role to coordinate the statistical activities of the institutions and bodies of the European Union, in particular to ensure consistency and quality of the data and minimise reporting burden. While waiting to see what impact the SDGs will have on the EU sustainable development and the Europe 2020 strategies and what mandate will Eurostat have to monitor the revised strategies, Eurostat is currently working on a last monitoring report of the EU SDS, to be published in early September 2015.

## III. The challenge of developing an indicator framework

21. The challenge of developing an SDG indicator framework is mainly due to the high number and the wide scope of goals and targets proposed by the Open Working Group (OWG) on Sustainable Development[2]. The OWG proposal is structured in a long list of goals and targets, differently from the Europe 2020 strategy which includes a few "headline topics" and from the EU Sustainable Development Strategy which is theme-oriented.

22. To tackle this challenge, Eurostat considers that the term "Indicator framework" should refer to a coherent set of indicators that addresses the overall requirements of the Post-2015 Development Agenda based on a conceptual structure. Just associating indicators to targets would end up with a very long list of indicators, as the experience of the list of 300 proposed preliminary indicators[3] prepared by the UNSC for the IGN meeting in March 2015 shows.

23. The development of an SDG indicator framework should therefore not only entail the selection of appropriate indicators, but also – and primarily – a deeper analysis of inter-linkages and overlaps between goals and targets of the current OWG proposal.

[1] Intergovernmental Negotiations (IGN), under the coordination of two co-facilitators, the Ambassadors of Ireland and Kenya to the UN, are taking place on a monthly basis from January to July 2015 with the goal to agree on a package for the Post-2015 Development Agenda, to present at the September UN General Assembly for approval.

[2] Referring to the UN IGN process, we can assume that the current OWG proposal on SDGs including 17 goals and 169 targets for the Post-2015 Development Agenda will not be further modified in a substantial way until their adoption by the UN assembly in September 2015 even if there are currently discussions about some targets.

[3] See "Technical report by the Bureau of the United Nations Statistical Commission (UNSC) on the process of the development of an indicator framework for the goals and targets of the post-2015 development agenda"

the country level, but it must be supported by a global strategy of integrated statistics. It is desirable to explore potential new data sources, including Big data, in partnership with research centres.

51. The UNSC Friend of Chair Group made an explicit recommendation to have a specific target on building an effective official statistical system. Such a target would emphasize the importance of statistics within democratic governance and ensure financial support for a renewed and enhanced world data revolution. The Financing for Development (FFD) process, including enhancing statistical capacity, is a priority that will be discussed at the July 2015 Conference in Addis Ababa.

52. For high quality and robust indicator framework to capture the Post 2015 challenges and to serve the sustainable development goals and targets, it is essential to have a global indicator framework limited in number but including multi-purpose indicators that can address several targets at the same time. At the same time, the number of indicators of the existing list circulated by UNSC is very high. The creation of "headline" indicators (possibly one for each goal) and "supporting" indicators could be a good way forward. Headline indicators should cover the most essential aspects. Their purpose would be to provide simple and clear information about progress towards internationally agreed policy objective. The supporting indicators, on the other hand, should provide further information on more specific aspects. They would be valuable to achieve a deeper comprehension of each phenomenon. Moreover, we stress the importance of disaggregated data to leave no one and no group behind and adequately address inequality and exclusion.

53. There is also a need to better respond to the Rio+20 mandate, in particular with regard to paragraph 38 on broader measures of progress to complement gross domestic product. It is important to ensure that the broader measures of progress are integrated across the global framework of indicators and that experiences developed at national level should be taken into account (as stated in the last FOC report on national practices around the world).

54. Subjective indicators should be used too. The subjective indicators (such as Generalized trust, Trust in institutions, Life satisfaction, Evaluation of wellbeing and Positive mode affects) have a proven capacity to grasp unobserved aspects of human wellbeing. They should be included in the framework as a sign of democracy of a country where people's opinions are taken in consideration. Concerning composite indices, there are some concerns about their capacity to measure targets.

55. The work of IEAG-SDGs should start from considering the existing experiences and developing the indicator framework by taking into account the work done on specific sustainable development frameworks already agreed at international level by CES-UNECE, OECD, UN MDGs and Interagency Expert Group on Gender Statistics.

56. The monitoring process should also be consulted with the political actors. A close co-operation and consultation between experts and politicians and civil society is needed.

57. As stated above the significant role of the National Statistical Institutes is essential for the reporting and monitoring process of the SDGs. In Italy this will be carried out taking into account the already existing national statistical system, reinforcing the relationships with the national stakeholders and producers, including the civil society, and taking into consideration the Equitable and Sustainable Well-being project (BES).

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**Response by official statistics to the Sustainable Development Goals**

# The role of the National Statistical Committee of the Kyrgyz Republic in monitoring the future Sustainable Development Goals

**Note by the National Statistical Committee of the Kyrgyz Republic**

*Summary*

The paper presents the preparations of the National Statistical Committee of the Kyrgyz Republic to monitor Sustainable Development Goals and promote the use of official statistics to monitor sustainable development policies.

The paper is presented for discussion to the first session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

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# I. Introduction

1. In light of the discussions on the indicators related to Sustainable Development Goals (SDGs), Post-2015 Development Agenda and Data revolution, the following provides some information on activities carried out in Kyrgyzstan.

2. The Declaration and the Millennium Development Goals (MDGs), approved in 2000 by the members of the United Nations, determined development priorities and indicators for the period up to 2015. For Kyrgyzstan, the monitoring of MDGs mostly required the development of specific measures and designing national indicators of sustainable development.

3. Today, Kyrgyzstan actively builds and strengthens the democratic state to ensure sustainable development, overcome historic challenges and prevent new risks.

4. Therefore, upon the initiative of the President of Kyrgyzstan, the National Strategy for Sustainable Development of the Kyrgyz Republic was developed for the period 2013-2017. The National Council for Sustainable Development is chaired by the President of Kyrgyzstan, the Coordinating Council for Cooperation with the Development Partners of the Government of Kyrgyzstan and other senior decision-making officials involved in the processes of capacity building, strengthening the role of regional institutions in the development and progress of MDGs and promotion of the Post-2015 Development Agenda.

5. In December 2013, the Parliament of Kyrgyzstan approved the "Programme and the Plan for transition of the Kyrgyz Republic to Sustainable Development for 2013-2017". This Programme became an integral part of the national policy for sustainable development of the country, as stated by the President of Kyrgyzstan. The OECD Green Growth indicators have been approved by a Decree of the Kyrgyz Government as system for monitoring of the Programme for 2013-2017. The National Statistical Committee of the Kyrgyz Republic is a key provider of data to the system (49 indicators out of 65 are produced by the National Statistical Committee)).

6. National strategic documents are an essential tool for implementing sustainable development goals, including the achievement of MDGs and widely discussed goals relating to the Post-2015 Development Agenda. Principles of sustainable development have been integrated into national policies and programmes with a focus on strengthening the economic, environmental and social aspects, and ending the loss of natural resources. For example, the National Statistical Committee (NSC) of the Kyrgyz Republic developed and approved the National Strategy for the Development of Statistics, where indicators of sustainable development are a cross-cutting element in the implementation of all activities mentioned in the Strategy including development of a System of Environmental-Economic Accounting (SEEA).

# II. Lessons learned from MDGs as a basis for SDGs

7. Today Kyrgyzstan, as a participant of the Millennium Declaration, among other countries, is at the stage of assessing achievements, risks and challenges which may hinder the progress of MDGs. Participation of Kyrgyzstan in the MDG process allowed to accumulate over 15 years of practice on forming partnerships both domestically and internationally.

8. The mentioned strategic documents reflect the level of achieving MDGs. In addition, the National Sustainable Development Strategy (NSDS) emphasizes the commitment to achieving the objectives of the Millennium Declaration.

9. For evaluation and monitoring of the Kyrgyz Governmental Programme for transition to Sustainable Development two applications have been developed: matrix of indicators and target indicators of human development. In the matrix of indicators 12 indicators coincide with MDG indicators, whereas in the matrix of target indicators of Human Development Index 17 indicators are identical with MDGs.

## III. Role of official statistics in the monitoring system

10. Participation in the monitoring of the MDGs allowed the National Statistics Committee of the Kyrgyz Republic to improve the methodology of household surveys to enable more efficient use of sources in the area of environment, gender and other indicators and to further adapt international standards to the local conditions.

11. NSC is the official source of information. However, no special support was provided (financial or methodological) to NSC for the monitoring of MDG indicators. The main sources of MDG indicators have become administrative data, existing statistical data, data collected through an integrated sample survey of households, the labor force survey and the population census. It should be noted that out of 45 MDG indicators, 38 are developed and produced by NSC and only 7 indicators by ministries and other agencies.

12. Important problems with data sources were identified when producing indicators in practice. For example, the population census is a good source, but it is available only once in five years.

13. It must be emphasized that extensive discussions took place to agree on common goals on the Post-2015 Development Agenda. The inclusive process provided additional information for decision-makers, helped to identify challenges relying on the collective wisdom of society. This enables the implementation of the ambitious Post-2015 Development Agenda in the first place.

14. There are challenges in adopting the new SGDs, such as capacity and knowledge building required within NSC and the possible increase of response burden among employees since the national statistical system is working within guaranteed government order. Otherwise the work on both MDGs and SDGs is not supported with additional financial and human resources.

15. International organizations and development partners are working with sectoral ministries and agencies on SDGs and not paying sufficient attention to NSC that would be the official source of information. But practice has shown that when preparing country reports on MDGs, only official statistical data was used.

16. Experience in monitoring of MDGs revealed the following issues that require specific attention when developing and implementing the goals and objectives of the Post-2015 Development Agenda:

(a) Firstly, a clear identification of baseline information against which progress will be measured and the goal will be set will be needed;

(b) Secondly, programmes and methodology to develop indicators needs to be a priority when aiming towards objectives of the Post-2015 Development Agenda.

17. During the above mentioned consultations, the following specific measures to improve monitoring the Post-015 Development Agenda with national statistics were suggested:

(a) To invite experts of NSC, not only representatives of the ministries, to participate in trainings and seminars on SDGs and the related indicators, as statisticians' input is needed to understand the indicators to be monitored, the issues related to data sources and to identify statistical tools as well as required capacity building for good quality data provision;

(b) To agree on the methodology of compiling indicators at the official level, as definitions may differ across countries. For example, in Kyrgyzstan the concept of young people includes persons from 14 years to 28 years, whereas according to international standards persons from 15 to 24 years belong to the corresponding age group;

(c) To establish a system of databases, sources and methods for obtaining the necessary information on sustainable development.

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# Eurostat's role in the development and implementation of a comprehensive monitoring framework for Sustainable Development Goals

**Note by Eurostat**

*Summary*

The paper describes Eurostat's role in monitoring the European Union Sustainable Development Strategy since 2006 and coordinating activities within the European Statistical System. The paper also outlines the role that Eurostat expects to play once the Post-2015 Development Agenda will be formally adopted.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

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# I. Eurostat's activities related to measuring sustainable development

1. In recent years, Eurostat has contributed in various ways to the on-going work on the Post-2015 Development Agenda by cooperating with the United Nations and participating in the Friends of the Chair Group (FoC) on broader measures of progress. Eurostat is fully committed to contributing to the process of establishing a new monitoring framework for Sustainable Development Goals (SDGs).

2. To support the monitoring of SDGs, Eurostat can rely on its many years of experience in monitoring sustainable development at the level of the European Union, which is an important part of the European Statistical Programme as well as of the system of methodologies for statistics, accounts and indicators.

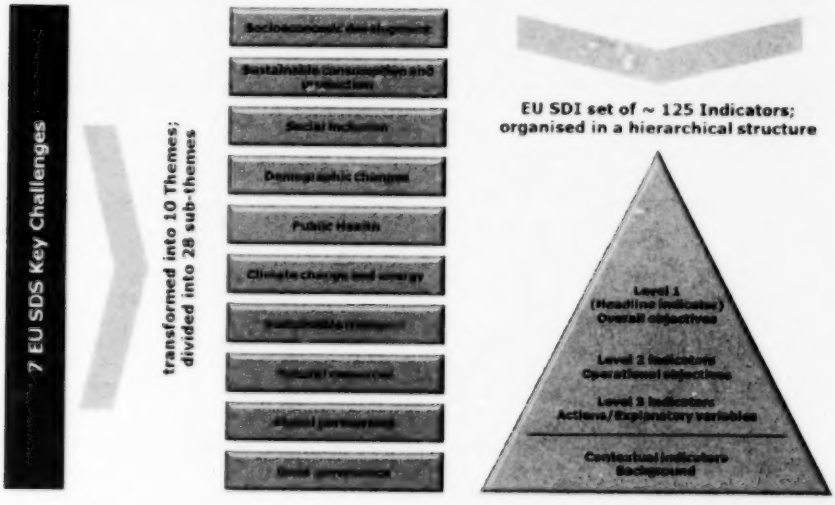
3. Eurostat has a consolidated monitoring experience, based on the activities it carries out since several years to assess progress towards the targets of European strategies such as the European Union Sustainable Development Strategy (EU SDS) and Europe 2020. Activities to measure well-being beyond GDP and Quality of Life also contribute to Eurostat's expertise when it comes to defining a monitoring framework for SDGs.

## 1. Monitoring the European Union Sustainable Development Strategy

4. The EU SDS was adopted in 2001 by the European Council and reviewed in 2006. Eurostat regularly monitors this strategy and publishes biennial monitoring reports since 2005. The last edition of the SDS monitoring report dates from December 2013. A new edition will be published in the first week of September 2015.

5. The indicator framework for monitoring the EU SDS, and the EU Sustainable Development Indicator set, includes 125 indicators covering 10 themes structured in 3 levels as shown in the figure 1.

Figure 1
**The structure of the EU SDI set managed by Eurostat**



6. Most of the data used to compile the indicators stem from the standard Eurostat collection of statistics through the European Statistical System (ESS), but other data sources are also used, notably other European Commission services, data from the European Environmental Agency (EEA) and Organisation for Economic Co-operation and Development (OECD).

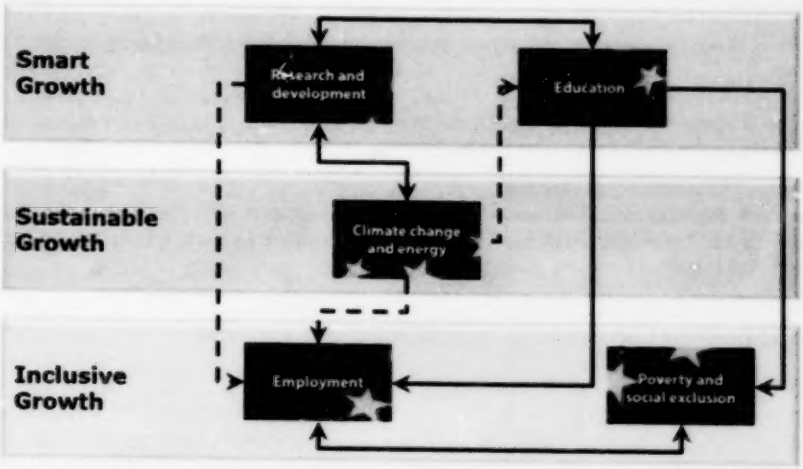
7. With the launch of SDGs, Eurostat assumes to continue monitoring progress towards sustainable development in Europe (see chapter II).

## 2. Monitoring the Europe 2020 strategy

8. Europe 2020 is the EU integrated long-term strategy for jobs and growth. In this context, growth has three connotations: smart, sustainable and inclusive (see figure 2).

9. The strategy has 5 headline targets, two of which are split in several components. In total, the strategy includes 8 quantified targets. Targets are set for the EU as a whole and separately Member States set national targets.

Figure 2
**Indicator framework for the Europe 2020 monitoring**




10. In practice Eurostat monitors progress towards the Europe 2020 targets through a set of 9 headline and 4 sub-indicators.

11. Several dissemination products such as a paper publication "*Smarter, greener, more inclusive? — Indicators to support the Europe 2020 strategy*" (biennial for 2013 and 2015 - yearly from next year), wiki articles (Statistics Explained), visual tools (maps, interactive charts) and a detailed online database provide statistical support to monitor progress towards the targets, with the aim to reach a wide and diversified public. Also a video is planned for the end of 2015.

12. Currently a review process of the Europe 2020 strategy is on-going. The outcomes of this review will inform about any future changes in priorities in the delivery of the Europe 2020 strategy.

24. Attempts to look at inter-linkages and overlaps between goals and targets of the OWG proposal had already been undertaken by Sustainable Development Solution Network (SDSN)[4] and others, but more work is needed in this direction.

25. Eurostat is currently undertaking a thorough mapping between the goals and targets of the OWG proposal and two existing conceptual frameworks, the one proposed in the CES *Recommendations on measuring sustainable development* and the current EU SDI set.

26. As this work has just started, Eurostat is not yet able to anticipate any possible results. But the figure below may serve as a visualisation of the expected outcome of this exercise. It shows the relations between the "Six essential elements for delivering the sustainable development goals" cited in the UN Synthesis report[5] and the goals of the OWG proposal.

Figure 3

**Relations between the "6 elements for delivering the SDGs" taken from UN Synthesis report and the 17 goals of the OWG proposal (mapping informally shared between UK Office for National Statistics and Eurostat)**

[4] SDSN is a UN initiative launched by UN Secretary-General Ban Ki-moon in August 2012. SDSN published the most recent version (version 7) of its report on "Indicators and a Monitoring Framework for Sustainable Development Goals: Launching a data revolution for the SDGs" in March 2015.

[5] The road to dignity by 2030: ending poverty, transforming all lives and protecting the planet; Synthesis report of the Secretary-General on the Post-2015 Development Agenda; December 2014

27. Mapping goals and targets against existing frameworks is a way to identify the already available appropriate indicators and at the same time the remaining data gaps. In addition, this approach allows identifying multi-dimensional indicators which can be used to measure several (interlinked or overlapping) targets. In this sense the results of such an exercise can serve two important purposes:

**(a) Limited number of indicators:** Experience in monitoring sustainable development strategies suggests that the overall number of indicators should remain limited to around 100. A larger set would be difficult to manage and to communicate;

**(b) Hierarchy of indicators:** Eurostat suggests defining a smaller set of core or headline indicators, and a larger set of supplementary indicators. The former would be the most representative for each goal, while the latter would provide more detail or contextual information.

28. To achieve a complete picture of interlinks and overlaps between the goals and targets of the OWG proposal, further frameworks coming from national and international institutes can be added to the exercise and shared within the forthcoming work of the IAEG-SDG.

# IV. Conclusions

29. Eurostat is fully committed to contribute to the process of establishing a monitoring framework for SDGs according to the roadmap approved by the 46th UNSC.

30. Eurostat will actively contribute to the work of the IAEG-SDGs in cooperation with other Directorate Generals of the European Commission and in cooperation with its partners in the European Statistical System.

31. Eurostat supports the idea of establishing a robust and high-quality indicator framework which serves to monitor SDGs at different levels and is kept open to innovation.

32. Based on such an SDG indicator framework and in accordance to the UNSC roadmap, Eurostat intends to produce a first (pre-) report on the EU situation concerning SDGs by the end of 2016.

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# OECD statistical support for the Post-2015 Development Agenda for sustainable development

**Note by the Organisation for Economic Co-operation and Development (OECD)**

*Summary*

The paper presents the experience of the Organisation for Economic Co-operation and Development with the development and implementation of measures of well-being and sustainability, and the links to the Sustainable Development Goals. The paper outlines how this experience can be usefully transformed into a contribution to the implementation of the Sustainable Development Goals. It explains which concrete areas of the work on well-being can be directly used for advancing the Sustainable Development Goals implementation agenda; where planned statistical developments will help to fill gaps; and which research areas will be tackled in the coming years.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

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# I. Background – OECD's overall contributions to the implementation of the Sustainable Development Goals

1. Based on progress made in ongoing discussions led by the United Nations, it is apparent that the forthcoming Sustainable Development Goals (SDGs) will be marked by three key characteristics: (i) universality: goals will be applicable to all countries, regardless of their level of development; (ii) integration of the economic, social and environmental dimensions and their inter-linkages; (iii) transformation: delivering on the vision of the SDGs will require fundamental changes to the way economies and societies interact. As a consequence, the SDG process directly concerns the OECD and its Members. It is expected that the 2016 OECD Ministerial Council Meeting will endorse a strategy to guide the OECD's response and contributions to support such a transformation.

2. Such a programme could range from raising awareness across the Organisation, and with Members, on the nature of the Post-2015 Development Agenda, to supporting the international community to tackle global challenges that require collective action such as modernised Official Development Assistance (ODA) and resource mobilisation to further active engagement with emerging economies, developing countries and the United Nations. Such engagement would entail sharing knowledge on the design and implementation of policies for sustainable development and providing expertise in building statistical capacity through the Partnership in Statistics for Development in the 21st Century (PARIS21), as well as targeted support for the development of SDG indicators.

3. Another aspect of the OECD's contribution could be to further exploit the OECD's data and evidence-based analyses and policy advice to support key elements of the emerging post-2015 framework (e.g. inclusive growth, measuring the root causes of inequality, the Programme for International Student Assessment and the Programme for the International Assessment of Adult Competencies (PISA-PIAAC), the Trade in Value-Added and Global Value Chains initiative (TiVA-GVC)s, trade in services, trade facilitation indicators, education and learning outcomes), along with updating and expanding OECD analytical tools to capture inter-linkages such as the water-energy-food nexus or interrelations between migration and other public policies.

4. Finally, OECD stands ready to support the SDG process, including the development of SDG indicators and the analysis of progress based upon them.

# II. OECD's contributions in the area of statistics

5. SDGs carry important implications for measurement and monitoring. Many of the proposed targets are complex and multifaceted or qualitative in nature, posing challenges around the feasibility of collecting data or even of defining indicators with precision. OECD envisages contributing to the development and monitoring of the SDG indicators through the following five activities:

(a) ***Providing input to the monitoring at the global level.*** In a few areas, world-wide data can be provided directly by OECD. These include in particular:

- Data and indicators on Official Development Assistance;
- Data and indicators that are based on the OECD's Trade-in-Value-added measurement tool that integrates world-wide input-output tables with data on trade in goods and services. One such indicator is demand-based $CO_2$

emissions, which allocates emissions during production to the country where the product is consumed;

- Measurement of cognitive skills among school children through the well-established PISA measurement approach which already extends well beyond the OECD area;
- There are also some indicators whose coverage of OECD countries is complete but which do not exist elsewhere. In these cases, OECD could lead the development of the indicator for a broader set of countries. One example is the '*Youth not in education, employment or training*' indicator; and
- One contribution that the OECD has already concluded is mapping *existing* OECD indicators against the list of SDG targets. While most of these indicators are only available for OECD Members and Key Partners, countries have found this mapping useful and may further exploit it for national-level reporting.

(b) ***Advancing measurement to new areas of well-being and sustainability***. OECD is already contributing toward better measurement in areas such as trust, health inequalities, green growth, income and consumption inequality in the national accounts, and job quality. These activities could either be accelerated or more explicitly tailored to the needs of the SDGs, e.g. by exploring approaches with different degrees of ambition so as to suit statistical capacity outside the OECD area.

(c) ***Offering to the United Nations Statistical Commission (UNSC) to draw on OECD measurement guidelines*** as "Intermediate Standards", consistently with United Nations inter-agency work on SDGs.

(d) ***Developing a simplified version of OECD's data dissemination platform OECD.Stat*** for developing countries. OECD.Stat is already used by a broad community of national statistical offices and academic institutions, and is mentioned as a potential dissemination tool by the UNECE High Level Group for the Modernisation of Statistical Production and Services. Given that many developing countries lack simple and efficient dissemination platforms, an "OECD.Stat light" product operating from a cloud application could help them fill the gap.

(e) ***Supporting initiatives to strengthen national statistical capacity, especially the OECD-hosted PARIS21:*** PARIS21's *Informing a Data Revolution* (IDR) country-led road map has already identified three main elements for a successful data revolution: more data, better technology, and greater accessibility. The IDR's Innovations Inventory demonstrates what can be done in terms of data collection, dissemination, and visualisation, open data initiatives and the use of big data. Its Metabase, developed in conjunction with the World Bank, provides a snapshot of countries' statistical capacities. PARIS21 complements the exchange of experiences and good practices that is well established in thematic areas, including environmental indicators and reporting. OECD will continue to support PARIS21's activities on SDG measurement and monitoring in developing countries.

## III. OECD's work on well-being and sustainability – some lessons

6. For over a decade, OECD has actively advanced work on the measurement of well-being and sustainability through major events, methodological development

and the compilation of internationally comparable indicators of well-being, most visibly the *How's Life?* publication (2011, 2013, 2015 forthcoming) and the *Better Life Index*.[1] Measurement of sustainability has been closely related to the measurement of well-being and is present in many OECD publications, notably *Towards Green Growth – Monitoring Progress: OECD Indicators* (2011) which presents a small set of policy-relevant, measurable and broadly-accepted indicators in the area of environmental sustainability.[2]

7. The OECD approach to well-being focuses on indicators that (i) relate to individual or households; (ii) reflect outcomes rather than outputs or inputs (for instance, the health status of the population is an outcome, as opposed to the number of treatments in hospitals, which is an output, or expenditure on medical equipment which is an input); (iii) show distributions in all dimensions alongside average achievements. Figure 1 below shows the eleven dimensions of current well-being used in the OECD framework.

Figure 1
**OECD Well-being Framework**

Source: OECD, 2013

8. The framework provides a direct link to the measurement of sustainability which amounts to ensuring that well-being can last over time.[3] The OECD framework to measure current well-being also fits seamlessly into the broader UN-ECE/Eurostat/OECD approach to measuring sustainable development. This approach makes a basic distinction between the temporal dimension of sustainable development (i.e. "now" versus "later") and the spatial dimension of sustainable development (i.e. "here" versus "elsewhere"). These are simple yet very useful

[1] See http://www.oecdbetterlifeindex.org/ for the web application of the Better Life Index.
[2] See http://www.oecd.org/greengrowth/ for up-to-date indicators and analysis of green growth.
[3] The link between current well-being and sustainability was the subject of a chapter in OECD (2013) *How's Life?*.

distinctions: it is argued below that they help organise the discussion and provide a reference point for the choice of indicators.

9. There are many links between SDGs and both the OECD framework for measuring well-being and the UNECE/Eurostat/OECD framework for measuring sustainable development – in terms of substance but also in terms of the need to develop a set of indicators to measure SDGs and associated targets. The following lessons drawn from OECD's experience may therefore be useful for the – admittedly more complex – venture of measuring and monitoring SDGs.

## A. The merits of a conceptual framework

10. It is difficult to overstate the importance of putting the definition of indicators and their measurement within a clear conceptual framework. Far from being a purely academic exercise, a conceptual framework increases the effectiveness and efficiency of an indicator set in several ways:

- A conceptual framework provides structure to indicators and clarifies their relation to goals. Of particular importance is the identification of links between elements of a conceptual framework – this helps identify overlaps, duplications and gaps and promotes consistency in classifications and methodologies;
- Much confusion can arise through imprecise terminology. Labels that mean different things to different people are not conducive to a high-quality set of indicators. A conceptual framework helps and sometimes forces clarification of terminology.
- A conceptual framework is a reference point for decisions whether to exclude or include particular indicators. For instance, the UN-ECE/Eurostat/OECD framework on Measuring Sustainable Development uses the concept of 'capital' to frame the measurement of sustainability. The well-being of present and future generations depends on how society uses and conserves its economic, human, natural and social capital. Indicators reflecting the capital approach measure the stock, changes in the stock, and the rates of investment and depletion (flow of extraction divided by current stock) of these resources.
- A conceptual framework can constitute an important element for policy design. For instance, the OECD's framework for the measurement of well-being (see above) stipulates eleven dimensions that constitute the most important elements of current well-being; this list of dimensions reflects the relevant literature and is in line with regional, national, and local initiatives in this field. Assessing the potential impact of planned policy measures on all relevant dimensions is one way of systematically integrating well-being considerations into policy-making *ex-ante*. This is already happening in several OECD countries.

## B. An indicator needs to be used

11. *The proof of the pudding is in the eating* – even the most carefully designed indicator set cannot advance well-being or sustainability if it is not used. One reason why indicators may not be used at all or not by the right persons (such as particular decision-makers) is that indicator sets are too large. The OECD experience in the area of measuring well-being shows that presenting evidence on eleven dimensions (through a few summary indicators) constitutes an upper limit for successful

interaction with the public and decision-makers. Similarly, the OECD experience with a set of Green Growth Indicators is that the full set of over 30 indicators was not suitable for efficient communication, or for deriving clear analytical messages. A particular effort was thus undertaken to identify a set of five 'headline indicators'. Clearly, information gets lost by reducing the number of indicators but the gain in focus and usability is significant. One way to maintain a broader set of indicators while communicating only on a few of them, is to establish a hierarchy of indicators: headline or summary indicators are backed up by broader sets of more detailed information.

12. At the international level, a key function of indicators is benchmarking. For instance, the OECD's well-being indicators are tools that countries use to benchmark their performance on critical aspects that matter the most to people's lives; they complement national studies and analyses that rely on country-specific indicators. They have also informed the initiatives pursued by many OECD countries to use these indicators in their policy process: the latest such example is "*Gut leben in Deutschland - was uns wichtig ist*" (*Wellbeing in Germany - what matters to us*), launched in April 2015 by the German Chancellery and directly inspired by the OECD work on measuring well-being. In general, indicators are more likely to be used if they offer the possibility to establish international benchmarks.

13. The *Better Life Index* has proven not only a powerful communication tool to engage with citizens but also a source of information in itself as users were asked to share information about some of their characteristics (country, age, gender,...). After re-weighting, this information can be used to better capture what matters most to different groups of people and thus suggest directions for public policy as well as priorities for future statistical work on well-being.

## C. New statistical sources to tackle new issues

14. Implementation of new frameworks for measuring well-being or sustainability inevitably reveals data gaps, especially at the international level. Often, short-term solutions need to be found before statistical systems can provide official data of good quality. One example is the measurement of inequality in dimensions other than income, such as health, wealth, education or work-life balance. Studies show that inequalities across dimensions are correlated – poor people have a higher probability of suffering from weak health etc. Consequently, identifying the most vulnerable parts of our societies requires information on the distribution of factors other than income across individuals. However, evidence and data are scarce. New questions and a pressing demand for some quantitative information within short time frames requires innovation and exploitation of new sources of information.

15. One such new source is expanding the use of micro-data from administrative and private sources. For instance, OECD's ongoing work on measuring the distribution of ages of death by socio-economic characteristics relies on microdata from death registers, combined with census records. A related challenge is the timeliness of data. For many indicators, usefulness declines quickly as the time lag between the between the present and the period to which data refer increases. This requires searching for solutions to 'nowcast' data on a provisional basis. In domains such as employment new approaches are gaining momentum to use information from search engines or social media to provisionally update series.

16. The development of indicators for analytical and policy purposes often drives exploration of new sources. OECD is convinced that the strong policy demand that comes along with SDGs will be an important catalyst for innovation and the accelerated use of new sources.

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# Everyone counts: Ensuring a response of official statistics to Sustainable Development Goals consistent with human rights

**Note by the United Nations Office of the High Commissioner for Human Rights (OHCHR)**

*Summary*

The paper consideres how to develop statistics measuring equality and non-discrimination. The paper shows that much can be learned from existing collaborative initiatives of official statistics and human rights community based on the Office of the United Nations High Commissioner for Human Rights (OHCHR) framework for human rights indicators. The paper illustrates how this framework gives guidance on the development of indicators anchored in human rights standards and on expanding data sources to account for the experiences of the most marginalized populations. The paper will provide recommendations on the role of international organizations and official statistics in enforcing common standards and ensuring that data is a global public good that supports the respect, protection, and fulfilment of human rights.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

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# I. Introduction

1. In 2015, leaders and people across the world have a unique opportunity to make real our shared vision of ending poverty, while protecting the environment, ensuring peace and realizing human rights for all. The new development agenda known as the Sustainable Development Goals (SDGs), the successor of the Millennium Development Goals (MDGs), will be finalized. And statisticians across the world are being asked to serve as torchbearers; illuminating our path with information on where we stand towards the future we want.

2. Numerous voices across the globe have echoed the call for a new, universal, and transformative sustainable development agenda that is built on human rights and on a data revolution that leaves no one behind. This unanimous call has been made by civil society organizations[1], the United Nations[2], States[3], international human rights mechanisms[4] and statisticians[5] themselves. The report 'A World that Counts – Mobilizing the Data Revolution for Sustainable Development' clearly stated that "*Any legal or regulatory mechanism, or networks or partnerships, set up to mobilize the data revolution for sustainable development should have the protection of human rights as a core part of their activities, specify who is responsible for upholding those rights, and should support the protection, respect and fulfilment of human rights*".[6]

3. With SDGs and a data revolution that call for a world that counts, where no group of people and no issue remains invisible, how can national statistical systems and international organizations maximize the opportunities and take on the challenges this revolution presents?

## A. Why are human rights and statistics interdependent?

4. The Fundamental Principles of Official Statistics explicitly recognize the rights of members of society. Statistical offices have a critical responsibility to inform policy making processes and provide the public with high quality statistics about the state of the society. In the human rights field, statisticians play a critical role in supporting evidence-based policy making and in monitoring realisation of

[1] Outcome document of the 65th Annual UN DPI/NGO Conference, August 2014.

[2] SG Synthesis Report 'Road to Dignity by 2030': 'the agenda itself mirrors the broader international human rights framework, including elements of economic, social, cultural, civil, and political rights, as well as the right to development'.

[3] The outcome document of the Open working Group (OWG) includes goals and targets on human rights issues and calls for broader data disaggregation.

[4] Treaty bodies and Special Rapporteurs of the Human Rights Council of the United Nations issued several statements on the Post-2015 development agenda, see http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=15505&LangID=E and http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13341&.

[5] See the Report of the Expert Group Meeting on the indicator framework for the post-2015 development agenda, SA/STAT/441/2/58A/L3, Statistics and indicators for the Post-2015 development agenda, report by the UN System Task Team on the Post-2015 UN Development Agenda, and the compendium of Statistical Notes, containing a note on Human Rights, including the right to development.

[6] Independent Expert Advisory Group on a Data Revolution for Sustainable Development (2014). 'A World That Counts: Mobilising the Data Revolution for Sustainable Development' Report prepared at the request of the United Nations Secretary-General, p. 23, accessible at http://www.undatarevolution.org/report/

civil, economic, political and social rights. In accordance with internationally accepted standards, starting with the Universal Declaration of Human Rights, the dissemination of relevant statistical information is essential to meet peoples' right to information and delivering on the fundamental human rights principles of participation and accountability.[7]

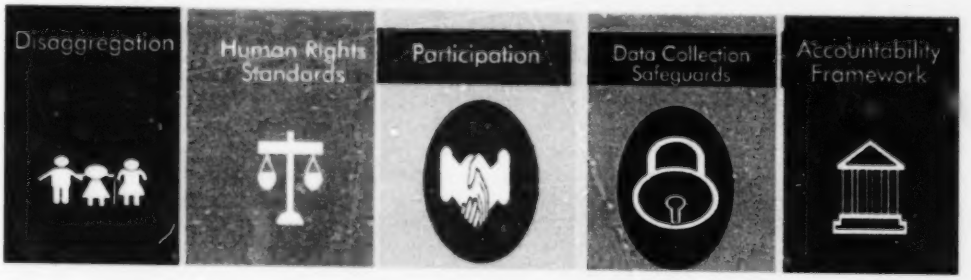
5. Efforts to protect human rights facilitate the establishment of trustworthy statistics. Upholding rights, such as the rights to privacy, to self-identification and to be registered is vital to ensure robustness and independence in official statistical systems. It is equally essential to ensure respect for the human rights of statisticians themselves, and prevent either State authorities or third parties from pressuring them to conceal unpalatable truths.

6. SDGs and associated data revolution offer an unprecedented opportunity to strengthen the link between statistics and human rights. This revolution implies an increased role for statisticians to contribute to the protection of human rights and to further integrate human rights considerations in their work. It also presents an opportunity for national statistical systems and international organizations to expand and improve their common statistical tools and thereby their capacity to respond to the needs of society. Taken seriously, these opportunities require answers on:

- How to count everyone and ensure no one is excluded from datasets?
- How to ensure that human rights are respected in the full spectrum of data production?

## II. How can official statisticians and international organizations respond to SDGs in a manner that is consistent with human rights?

7. In responding to the challenges posed by SDGs, lessons from existing collaborative initiatives of national statistical and the human rights community in developing human rights indicators could provide guidance.[8] A human rights-based approach to statistics and data implies:




[7] The Convention on the Rights of Persons with Disabilities contains provisions on the role of statistics and data collection in order for State parties to formulate and implement policies to give effect to the convention.

[8] For more information about human rights indicators, see '*Human Rights Indicators: A Guide to Measurement and Implementation*'. HR/PUB/12/5, accessible at: http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx

**(a) Disaggregating indicators by grounds of discrimination prohibited by international human rights law** in order that no-one is excluded or left behind, and in conformity with SDG17.18 which states that indicators should be disaggregated by "income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national context". **This requires strengthening capacities to produce and analyse more disaggregated data, measure the disparities between groups and monitor the reduction of inequalities, in order to close the gaps between groups. For the smallest groups or those invisible in official statistics, new partnerships and use of innovative technology and statistical techniques, including mapping, targeted surveys, small area estimation may be required.**[9]

**(b) Measuring implementation of human rights standards critical to the realisation of SDGs**, including availability, accessibility and quality of rights-related services (e.g. health care, education) and goods (e.g. water); use of maximum available resources domestically and internationally; non-discrimination and equality; participation; access to justice and freedom from violence. A forward-looking approach to measuring the new goals and targets is needed, so that the priorities of SDGs are not limited by existing data and data sources. In addition, promoting serious investment in the development of new data, including topics that are currently not part of official statistics[10], and data sources, including non-traditional sources which meet relevant statistical and human rights standards.[11] **This reqires coordinating the validation of data from new data sources (e.g. civil society, human rights organizations) and ensuring that they comply with the Fundamental Principles of Official Statistics.**

**(c) Facilitating participation of the population, especially disadvantaged and marginalized members of society and other relevant stakeholders in the measurement process.** Participation is a fundamental principle of human rights. There are already a number of collaborative efforts involving national statistical offices, representatives of population groups and national human rights institutions, such as in Denmark on gender and persons with disabilities, in the Philippines on indigenous peoples, and in Bolivia on economic and social rights.[12] This would require a more institutionalized partnership between official statistics and the human rights community, e.g. through participation of National Human Rights Institutions (NHRIs)[13] or civil society organisations in the preparation of the national strategies for the development of statistics, in national statistical advisory councils, negotiation of Memoranda of Understanding for data collection on human

[9] For more on disaggregation, see 'Ensuring no one is left behind: A human rights-based approach to data', accessible at http://www.ohchr.org/EN/Issues/MDG/Pages/MDGPost2015Agenda.aspx

[10] Some examples are the human rights and governance perception surveys in Africa, http://ea.au.int/en/statistics; and Australian Bureau of Statistics survey on feelings of personal safety, http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features40Jun+2010

[11] UNESCO data on safety of journalists, http://www.unesco.org/new/en/communication-and-information/freedom-of-expression/safety-of-journalists/;

[12] For more details on these initiatives, see www.humanrights.dk/disability, http://www.oecd-ilibrary.org/development/oecd-journal-on-development-volume-9-issue-2_journal_dev-v9-2-en, http://www.ine.gob.bo/indicadoresddhh/alim4.asp,

[13] NHRIs are independent administrative body set up by a State to promote and protect human rights. An inter-governmental body of NHRIs oversees a peer-review process of their independence. There are currently 108 NHRIs across the world. For more information, see http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx

rights, references to human rights, when appropriate, in preparation of metadata, and providing training on human rights to statisticians and on basic statistics to human rights practitioners. **This requires developing governance mechanisms on a strengthened partnership of official statistics and human rights institutions.**

**(d) Ensuring human rights safeguards in the collection, processing and dissemination of data**, including data confidentiality, non-discrimination and self-identification[14]. The surveyed population, data producers and users must be able to operate freely and be protected from reprisals. **This requires working together on developing guidelines to ensure that the full spectrum of data production conforms to legal and institutional standards on ethics, statistics and human rights.**

**(e) Strengthening accountability and policy coherence** by measuring not only outcomes, but processes (legal, institutional and policy), relevant in assessing the extent of efforts being made to reach SDG targets. Any new global review mechanism for post-2015 development commitments should explicitly refer to international human rights treaty standards, and should ensure rigorous independent review, effective civil society participation and high-level political accountability. National tailoring should not be used as a chance for States to dilute or retract from their legal and policy commitments at the global level[15] **This requires that national statisticians take an active role in setting up an accountability framework and effective national tailoring for the SDGs.**

8. Cooperation among statistical systems, international organizations, policy makers, human rights institutions, civil society and marginalized and vulnerable populations, will be fundamental in the effective monitoring of SDGs and in making sure that everyone counts.

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[14] The Committee on the Elimination of Racial Discrimination (CERD) has made clear that identification as a member of a particular ethnic group "shall, if no justification exists to the contrary, be based upon self-identification by the individual concerned." The UN Principles and Recommendations for Population and Housing Censuses advise that information on ethnicity be acquired through self-declaration of a respondent and also that respondents have the option of indicating multiple ethnic affiliations.

[15] For more on discussion on accountability, see http://www.ohchr.org/Documents/Publications/WhoWillBeAccountable.pdf

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# Update on the ongoing process to develop an indicator framework for the Post-2015 Development Agenda[1]

**Note by the United Nations Statistical Division**

*Summary*

This paper focuses on the process of the development of the global indicator framework for the Post-2015 Development Agenda. It informs the Conference of European Statisticians on the activities of the Friends of the Chair group on broader measures of progress, and the inter-governmental negotiations and work on the indicator framework. The paper concludes by considering briefly the work ahead.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Response by official statistics to the Sustainable Development Goals".

[1] This paper focuses exclusively on the process of the development of the global indicator framework for the Post-2015 Development Agenda. It will not inform about the process on financing for development, nor will it cover related work on the data revolution, big data and a transformative agenda for official statistics, statistical capacity building etc.

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# I. First phase: the activities of the Friends of the Chair group on broader measures of progress

1. The possibility of an indicator framework for the Post-2015 Development Agenda and related mechanisms for its implementation were initially considered by the Friends of the Chair group of the United Nations Statistical Commission (UNSC) on broader measures of progress.

2. At its forty-fourth session, in March 2013, the Statistical Commission established the Friends of the Chair group (FOC) on broader measures of progress (decision 44/114) as a response to the request of the United Nations Conference on Sustainable Development (Rio+20 Conference) to launch a programme of work on broader measures of progress to complement GDP in order to better inform policy decisions. The group was also requested to monitor closely the ongoing debate on development frameworks and to keep the Bureau of the Statistical Commission informed. The group was expected to undertake an active dialogue with United Nations bodies and the policy sphere in order to ensure that a robust statistical measurement approach be incorporated from the outset, in preparations for the Post-2015 Development Agenda.

3. Since its inception, FOC conducted the following activities through a very active participation and extensive work by all its members and with the support of the United Nations Statistics Division:

(a) May 2013: The FOC website was launched to provide information and a platform for the ongoing work of the FOC, reflecting the commitment of the group to operate in an open, transparent and inclusive manner;

(b) July-October 2013: The FOC reviewed the report of the High-Level Panel of Eminent Persons (HLP Report) from the point of view of its implications for statistical work;

(c) September 2013 - March 2014: The FOC contributed to the drafting of a compendium of 29 statistical notes that were provided to the Open Working Group on Sustainable Development Goals (OWG) as input to the deliberations on the sustainable development goals (SDGs). The statistical notes were drafted under the auspices of the FOC by experts from many national statistical offices and international organizations, under the coordination of the United Nations Statistical Division;

(d) December 2013: FOC finalized its first report to the Statistical Commission, presenting a stocktaking exercise of current national, regional and international practices on broader measures of progress and discussing the prospects for and the way forward towards a technically solid and globally agreed set of measures of progress and the measuring and monitoring of the goals of the Post-2015 Development Agenda. A separate section presented key messages for policy makers, proposals for the further involvement of official statisticians in the ongoing debate and processes towards a Post-2015 Development Agenda, and proposals to carry out the work programme on broader measures of progress;

(e) 17 December 2013: FOC contributed to the organization and conduct of an informal session of the OWG on measuring progress;

(f) March-April 2014: FOC provided comments on the indicator proposal of the Sustainable Development Solution Network (SDSN) and an initial assessment of the 100 proposed indicators in terms of measurability, based on a consultation with FOC members and international organizations;

(g) June 2014: FOC provided the OWG Co-Chairs with a matching between available indicators and the targets contained in the OWG's "Zero draft," and an

assessment of the broad data availability for these indicators in countries. This input was partly based on the FOC's work on the SDSN indicator proposal;

(h) September 2014: The United Nations Statistics Division in New York presented a note to the Committee for the Coordination of Statistical Activities on the work on the indicator framework for the Post-2015 Development Agenda informing about the possible arrangements for the development of the indicator framework;

(i) September 2014 - January 2015: FOC developed and conducted a survey (i) to complete the compendium of national practices on broader measures of progress and (ii) to obtain information on the availability of data for indicators to measure the Sustainable Development Goals (SDGs) and the associated 107 substantive targets proposed by the OWG (the targets on means of implementation were not included). The results of the survey, in which 91 countries participated, were presented in two background documents to the forty-sixth session of the Statistical Commission;

(j) December 2014: FOC finalized its second report to the Statistical Commission providing a roadmap and timetable for the development and implementation of the global indicator framework for the goals and targets of the Post-2015 Development Agenda.

4. The work of the FOC was instrumental in creating awareness and recognition by the intergovernmental process on the Post-2015 Development Agenda of the role of the global statistical community and the Statistical Commission, as its main intergovernmental body, in the preparation of the indicator framework for the goals and targets of the Post-2015 Development Agenda. Furthermore, FOC did important preparatory work for the development of the indicator framework and created awareness for this task among national statistical offices in countries.

## II. Second phase: Inter-governmental negotiations and work on the indicator framework

5. In December 2014, the General Assembly launched the process for the negotiations on the Post-2015 Development Agenda and, in its resolution 69/L.46, decided that the proposal by the Open Working Group on Sustainable Development Goals would be the main basis for integrating sustainable development goals into the Post-2015 Development Agenda. This marked the beginning of the final phase of the work in preparation of the new development agenda and its goals and targets. The following activities on the preparation of the indicators have taken place since then:

(a) December 2014-January 2015: In their letter of 19 December 2014, the Co-facilitators of the intergovernmental negotiations on the Post-2015 Development Agenda requested the United Nations Statistical Commission to provide a provisional proposal in relation to indicators for sustainable development goals and targets, to be discussed as an input to the intergovernmental negotiations at its session of 23-27 March 2015. In her response to the Co-facilitators, the Acting Chair of the Statistical Commission confirmed that the UNSC would provide the necessary statistical support for the elaboration of the Post-2015 Development Agenda, while also expressing the concerns of Members of the Commission regarding the enormous challenge that a large number of indicators would pose for national statistical systems. Also, the Acting Chair of the UNSC indicated that any preliminary proposal would need to allow for all required technical adjustments and completion at a later date;

(b) January-March 2015: National statistical offices of all United Nations Member States were contacted by the United Nations Statistics Division as the Secretariat

of the Statistical Commission, to provide their initial assessment of the over 300 proposed provisional indicators. Seventy countries replied to this request. The 304 proposed provisional indicators were compiled from submissions of experts from international agencies, organized as clusters under each goal, based on the cluster structure of the Technical Support Team for the Open Working Group on SDGs;

(c) 25-26 February 2015: An Expert Group Meeting on the indicator framework for the Post-2015 Development Agenda (EGM) brought together participants from countries, agencies, funds and programmes, and regional commissions as well as representatives from civil society, academia and Permanent Missions to the United Nations. The meeting made important recommendations for the development of the indicator framework that were provided to the forty-sixth session of the Statistical Commission the following week;

(d) 3-6 March 2015: The Commission, at its forty-sixth session (3-6 March 2015), endorsed the roadmap for the development and implementation of a global indicator framework and, in particular, the formation of the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), to be tasked with fully developing a proposal for the indicator framework for the monitoring of the goals and targets of the Post-2015 Development Agenda at the global level, under the leadership of the national statistical offices, in an open and transparent manner. The Commission also endorsed the suggested timetable that foresees the presentation by the IAEG-SDGs of an indicator framework at the forty-seventh session of the Commission in March 2016 for its review and approval;

(e) 23-24 March 2015: At a session of the intergovernmental negotiations on indicators, Member States reviewed and discussed the technical report by the United Nations Statistical Commission presenting the preliminary and indicative indicators proposed by experts of the United Nations system and their assessment by national statistical offices (see above). FOC assisted in the drafting of this report. At the intergovernmental negotiations, Member States expressed overall great appreciation for the work done by the statistical community and welcomed the technical report by the Statistical Commission. Member States also supported the roadmap as endorsed by the Statistical Commission for the development of the indicator framework for the Post-2015 Development Agenda and the establishment of the Inter-agency and Expert Group on SDG indicators (IAEG-SDGs);

(f) 21 May 2015: The Chair of the United Nations Statistical Commission, Mr. John Pullinger, addressed the intergovernmental negotiations on the Post-2015 Development Agenda to provide an update on the process to develop an indicator framework for the goals and targets of the agenda. In his statement, Mr. Pullinger re-assured Member States that the development of the global indicator framework would be fully based on goals and targets as presented in the report of the Open Working Group on Sustainable Development Goals (OWG) and reviewed during these ongoing intergovernmental negotiations and endorsed at the High-level summit in September 2015 (see http://unstats.un.org/sdgs/2015/05/27/update-on-process-to-develop-indicator-framework/); John Pullinger is expected to present an update on the progress of work on the indicators in one of the July sessions of the intergovernmental negotiations;

(g) 1-2 June 2015: The main objectives of the first meeting of the IAEG-SDGS were to set-up the process for the development of the indicator framework, develop a work plan and agree on the way forward, establish the methods of work of the group, and to discuss technical issues, including the interlinkages across targets and data disaggregation. As an input to this meeting and based on the initial assessment of proposed provisional indicators by Member States in February/March (see above), the Statistics Division prepared a compilation of indicator proposed by the relevant agencies and related metadata. The Annex contains the draft conclusions of the meeting;

(h) 2 June 2015: The zero draft of the outcome document for the UN Summit in September 2015 was made available. This zero draft was provided by the Co-Facilitators of the intergovernmental negotiations on the Post-2015 Development Agenda to facilitate preparations for the next intergovernmental negotiations scheduled for 22-25 June 2015. The following four points should be highlighted, which are of particular relevance to the preparation of the indicator framework:

(i) In its introduction (page 2), the heads of State and Government of the 193 member States of the United Nations reiterate that "poverty eradication is the greatest global challenge and an indispensable requirement for sustainable development." Member States intend "between now and 2030, to end poverty and hunger once and for all; combat inequalities; to ensure the lasting protection of the planet and its resources; and to create conditions for sustainable, inclusive and sustained economic growth and shared prosperity." Furthermore, member States "pledge that nobody will be left behind". These statements constitute the essence of what Member States intend to accomplish;

(ii) In section I. - Sustainable Development Goals and targets (page 7), it is stated that quality disaggregated data will be needed to help with the measurement of progress. Member States agree to intensify their efforts to strengthen statistical capacity in developing countries, particularly least developed countries and other countries in special situations.

(iii) In section I. - Sustainable Development Goals and targets (page 8), it is stated that the goals and targets will be followed-up and reviewed using a set of global indicators which will be developed by the IAEG-SDGs and will be finalized by March 2016 under the guidance of the Economic and Social Council and the UN Statistical Commission;

(iv) In section III. - Follow-up and Review (page 30), it is stated that follow-up and reviews at the High-level Political Forum would be informed by the Global Sustainable Development Report. A separate annual SDG Progress Report will be prepared by the UN Inter-agency and Expert Group on SDG indicators, based on data from national statistical systems.

## III. The work ahead

6. The work for the development of the global indicator framework will bring together representatives of national statistical systems as the official members of the IAEG-SDGs, with the contribution by experts from the international statistical system, including from international agencies, regional commissions and other entities, and by experts from civil society, academia and other stakeholders.

# Annex

## Draft Conclusions of the first Meeting of the Inter-agency and Expert Group on the Sustainable Development Goal Indicators (IAEG-SDGs) New York, 1-2 June 2015

Below are the main conclusions of the meeting. A detailed technical meeting report will follow.

The IAEG-SDGs:

1. Recalled the guidance provided by Member States at the March meeting of the inter-governmental negotiations that indicators must directly respond to the goals and targets agreed in the Open Working Group and their level of ambition; must not undermine or re-interpret the targets; must cover all targets, including targets on means of implementation and give equal weight to all targets; must maintain the balance achieved, and should not introduce any new or contentious issues; furthermore, there also appeared to be broad agreement among Member States that the number of global indicators should be limited and should include multi-purpose indicators that address several targets at the same time.

2. Recalled the results of the Expert Group Meeting on the indicator framework for the Post-2015 Development Agenda, New York, 25-26 February 2015 in respect to the design of the indicator framework and the criteria of indicator selection, and agreed to take those criteria into account and to follow a framework approach in its work; recognized that, while the number of global indicators must be limited, some targets might require multiple indicators to measure its different aspects; recognized the need to systematically address the issue of disaggregation, and to leave no one behind.

3. Recalled that the IAEG-SDGs, according to its Terms of Reference, will develop a proposal for an indicator framework and a list of indicators for the monitoring of the goals and targets of the Post-2015 Development Agenda at the global level; its proposal will be considered for adoption by the Statistical Commission at its 47th session in March 2016 and later presented to the designated political inter-governmental process for its consideration.

4. Stressed that the role of the IAEG-SDGs members should include consultation and coordination within their own national statistical system, and should also include reaching out to the countries in their respective region and sub-regions; following the practice during this first meeting, the IAEG-SDGs will also consider contributions by observers; stressed the important contributions of the regional commissions and regional and international agencies, in particular as entities responsible for the compilation of indicators at the global level and/or for the conceptual and methodological development in their specific areas of work based on their existing mandates and will invite them to contribute their expertise during its consultations; stressed the important contributions of Major Groups and other stakeholders in the indicator development process, and will ensure their further involvement through an appropriate channel of consultations.

5. Agreed that the invitation to all members of the IAEG-SDGs and meeting materials need to be provided sufficiently ahead of the meeting to allow the attendance of the technical experts of all members and sufficient time for the review of the materials.

6. Agreed that the draft meeting conclusions will be sent to all members for their review.

7. Requested that the information on the activities of the IAEG-SDGs be available in a fully transparent manner to all Member States and recognized in this context the establishment of a website on SDG indicators (http://unstats.un.org/sdgs/); this website will

contain all documents of the meeting, extensive metadata and all inputs and statements contributed during the meeting, and will be regularly updated.

8. In order to conduct its work efficiently and in a timely manner, agreed to establish two discussion streams to which all members of the IAEG-SDGs are invited and encouraged to participate: the first one focusing on conceptual frameworks and indicator concepts and definitions, and a second one focusing on identifying interlinkages among indicators across goals and targets.

9. Agreed to invite members of the IAEG-SDGs to express their interest to lead as facilitators the work of the two discussion streams and noted the offers of the Philippines to facilitate the first and of Italy to facilitate the second discussion stream.

10. Stressed that the two co-chairs of the IAEG-SDGs should act in a neutral and impartial way, and following the established practices of the Statistical Commission, refrain from stressing and promoting their own views and facilitate the discussion allowing for all members of the group to fully participate in the discussion.

11. Requested the Secretariat to provide by 23 June a full explanation of the contents and rationale of the two lists of indicators that were provided as inputs for the discussions, and to make available the list of proposals incorporating any additional inputs or corrections received at the meeting; requested the Secretariat to clarify how the lists took in full consideration the assessment of preliminary and indicative indicators conducted in February/March 2015 that was presented in a technical report by the UN Statistical Commission to the inter-governmental negotiations in March 2015 and in which 70 countries participated.

12. Requested the Secretariat to provide as soon as possible a refined tentative timeline and work plan which will consider sufficient time for both discussion streams to conclude their work and, if feasible, provide a first compilation of possible indicators for a global indicator framework, allow a second round of consultation and provide an updated compilation of possible indicators four weeks ahead of the second meeting of the IAEG-SDGs.

13. Agreed that the next meeting of the IAEG-SDGs should be a three-day meeting and would be tentatively scheduled for 26-28 October 2015.

14. Agreed that the proposal for a global indicator framework will be finalized by the end of November for a timely submission to the 47th session of the Statistical Commission in March 2016.

15. Requested the Secretariat to set-up an electronic collaboration platform to facilitate the work of the IAEG-SDGs ensuring the opportunity of equal participation of all members.